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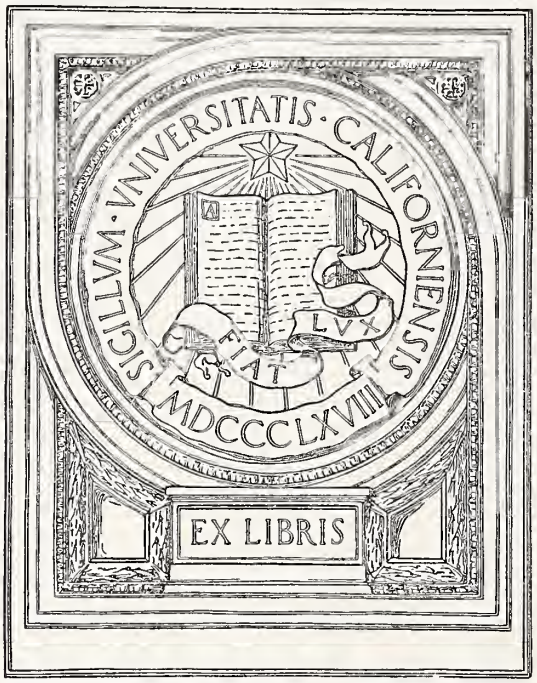

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Centennial Session ~ Portland ~ June 21-24, 1953

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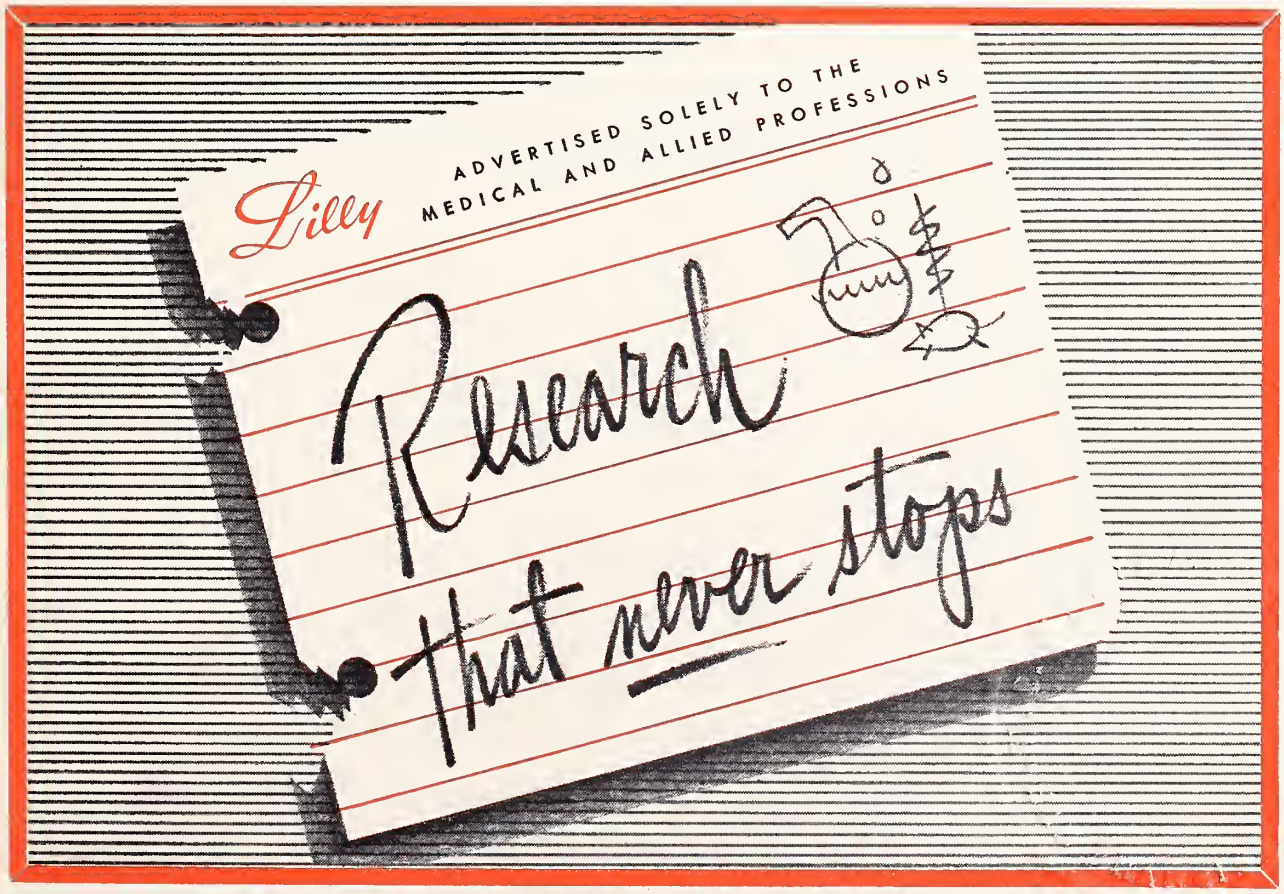

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The Journal of the Maine Medical Association

Volume Forty-~~Three~~ Four Portland, Maine, January, 1953 No. 1

ERYSIPELOID — A METHOD OF TREATMENT

Philip O. Gregory, M. D., St. Andrews Hospital, Boothbay Harbor, Maine

Erysipeloid may occur in three forms. The one most commonly seen, a mild localized cutaneous type, is discussed in this paper. This type usually appears on some part of the hand, occasionally in the form of paronychia. It is connected with itching and burning, and appears as a smooth, circumscribed, more or less edematous plague, at times with elevated irregular borders. The plague slowly extends over the fingers and up to the wrist, usually only on the dorsal surface. Lymphangitis and lymphadenitis occur in some cases. General symptoms such as fever and malaise may at times accompany the onset of the disease. The incubation period of our cases was about one day. The onset of a typical case is associated with severe, deep-seated pain, accompanied by throbbing, incapacitating the patient.

The diagnosis is not difficult, if the condition is kept in mind as a possibility. History of contact with fish or lobster should arouse suspicion. Strict limitation of the process to one location, usually the hand, manifest by erythematous edematous lesion with tenderness of the joints on lateral pressure, the slow progression with limitation to the fingers and hand should clinch the diagnosis.

We have treated about six hundred cases occurring in commercial and pleasure fishermen along the coast of Maine. The first cases were treated with Griswold's ointment or ichthyol and lanolin, half and half. Later ichthammol 20 per cent was used. When sulfanilamide came along a fairly large number of patients were treated with this without much success. Other sulfonamides were used as they appeared on the market but still without much success. Recently, however, we have tried a new approach which we feel has some merit. We are using Neomycin Sulfate .5 mg. per gm. locally and giving these patients 300,000 units of penicillin intramuscularly on two or three consecutive days. We have found that not more than three applications are needed to effect a cure. We have used penicillin alone with some success but by using Neomycin locally and penicillin intramuscularly 90 per cent of our patients have responded satisfactorily. The severe, deep-seated pain and throbbing disappears in most cases in 24 hours. This means the patient is able to return to work earlier with loss of fewer man hours than previously.

Summary: The common type of erysipeloid seen every day among our fishermen responds very nicely to local applications of neomycin sulfate and intramuscular injections of penicillin 300,000 units daily. Usually the patient's response is rapid and his symptoms are gone in not more than three days from start of treatment.

92135

OPHTHALMIC SURGERY IN THYROID PATHOLOGY (DYSFUNCTION)

Edmund B. Spaeth, M. D.,* Philadelphia, Pa., and Boothbay Harbor, Maine

In considering this subject from the standpoint of ocular surgical therapeutics, a portion of the discussion is related to the exophthalmos of thyroid or pituitary dysfunction, considering essential a thyrotropic basis for the exophthalmos, while the other discusses procedures connected with the oculomotor disturbances of thyroid gland pathology. In this way there is less importance to the sharp differentiation of a basic thyrotoxic state or an essentially thyrotropic condition.

The eye signs and symptoms of the thyrotropic state can be called quite properly pituitary exophthalmos.[1] In those cases having characteristics of both, the thyroid dysfunction, if that is present, fails to depress pituitary secretion and as Herman said, "obviously these cases will present the most therapeutic problems." Each of these three have different surgical indications. These are related, wholly, to degrees of severity in the basic disease. They are essentially different diseases.

The fundamental orbital pathology for exophthalmos is significant. In thyrotropic exophthalmos the involvement of the eye in its progression is entirely disassociated from a thyrotoxicosis. By reason of the upset balance of the hormones, water storage faults occur. Because of the confined nature of the orbital space this may have particularly disastrous consequences in that the exophthalmos which results may progress inexorably. Thyrotropic exophthalmos has an uneasy proptosis. Phenomena of pain, discomfort, lacrimation, photophobia and diplopia frequently occur. Patients with this type of exophthalmos often consult an ophthalmologist first. One may find periocular edema, chemosis and injection of the conjunctivae. Absence of lid spasm permits free eversion of the lids, and the degree of proptosis is real. Often a thick ridge of edematous tissue projects, like a finger, towards the inner canthus. Actually, in thyrotropic exophthalmos, the eyes, not the basic disease, seem to present the major therapeutic problem.

Thyrotropic exophthalmos is always a serious condition,—not only difficult as to diagnosis, but equally difficult as to treatment. A recent case, as an illustration, is now quiescent, but he is in a lamentable condition. The right eye has been enucleated following absolute glaucoma because of massive X-ray therapy due to a faulty diagnosis of retrobulbar neoplasm; and the left eye is now immobile, due to the muscle degeneration, in secondary glaucoma though stabilized with miotics, and the lids in permanent intermarginal tarsorrhaphy.

In thyrotoxic exophthalmos the proptosis is symptomless. Congestion of the conjunctivae is absent. Lid spasm is evident and the proptosis is more apparent than real. Oculomotor disturbances, the various lid signs, also muscular in origin, and the exophthalmos with other extraocular signs are the principle ocular manifestations.[2]

Before considering local surgical measures in thyrotropic conditions,—that is, local surgery with its sole purpose that of saving the eye,—other therapeutic procedures available must be briefly discussed. These are, first, the administration of thyroid gland or extract to decrease the output of pituitary thyrotropic hormone; and second, to decrease the output of this hormone by modifying the metabolism of the hormone producing cells, as by X-ray therapy. Neither is an ophthalmologist's problem, but both are procedures to be used alone, or as a part of the total treatment of any one case. For example, a simple tarsorrhaphy will prevent damage to the cornea in a severely proptosed eye, regardless of the type of exophthalmos, but neither tarsorrhaphy nor orbital decompression may be sufficient to save the globe in a case of steadily developing intraorbital pressure. These cases can become so severe, even before the globe is endangered from corneal perforation, as to cause marked permanent degeneration of the orbital muscles, swelling of the optic nerve, and retinal detachment. Longstanding orbital edema can destroy ultimately all orbital muscle tissue, terminating in degeneration and in ocular immotility. A common finding in these cases, frequently most confusing as to diagnosis, is the fact that the exophthalmos may be only monocular early in the course of the disease. This can result in a faulty diagnosis of possible unilateral retrobulbar neoplasm or pseudo-tumor.

The thyrotoxic states are quite different from these situations in their therapeutic demands. The oculomotor conditions of thyrotoxic exophthalmos in extent, in degree, and in frequency of occurrence are not universally consistent with the degree of thyrotoxicosis. Actually, oculomotor palsies have been seen in cases with relatively low degrees of sub-acute intoxication and of fairly long standing, rather than with severe and acute thyroid situations. The pathology may be a true oculomotor type of a myasthenia. When established it is permanent. The prognosis is absolutely bad for spontaneous recovery. In order of frequency occurrence the superior rectus muscle seems to be the most frequently involved. The inter-

* From The Graduate School of Medicine, University of Pennsylvania, Philadelphia; and The Wills Eye Hospital, Philadelphia. Presented before the Section of Ophthalmology, New York Academy of Medicine, April 12, 1952.

nal rectus muscle, and following this the external rectus muscle are next most commonly paretic.

The lid retraction, which one sees and which responds so nicely to the levator recession, is less readily explained. Judging from the difficulty one has in everting the upper lid (Gifford's sign), this might be due to tonic spasm of the smooth muscle of the lid. As Walsh[3] said—"Except for sympathetic stimuli to the smooth muscle as a causative factor, underlying mechanisms are not well understood. Although such stimuli as for example in exophthalmic goitre may result in tonic retraction of the lids, it is probable that in some instances the stimuli are clonic."

The technique for the surgery of the oculomotor palsies is well understood. In these instances muscle resections are to be performed upon the paretic muscles. The sequence of surgical procedures is a bit more exacting. In such instances as to be shown the vertical surgery should be done first, with a sufficient recovery period before the levator recession is carried out. A recession of a conjugate yoke muscle is not indicated. Disturbances in ocular motility are due to muscle degenerations rather than to oculomotor palsies. A resection of an involved muscle, therefore, gives best results.

The indications for surgery are frequently imperative. The lagophthalmos of lid spasm, as seen in Figures 1 and 2,[4] needs correction for purposes other than pure appearance's sake. The ocular palsies of thyroid myasthenia, when established, are permanent, and must be treated surgically, as are all other forms of nonconcomitant oculomotor paralyses. The stationary exophthalmos of arrested thyrotoxicosis, or of severe stationary, and not malignant, thyrotropic exophthalmos, is perhaps largely cosmetic in its demands. It may, however, be otherwise. The progressive type of malignant exophthalmos has an absolutely essential surgical aspect. It may not only be eye-saving, but even life-saving. Such a condition needs both surgical and medical therapy, which frequently are heroic in extent.

The surgery for lagophthalmos (including spasm of upper lid), and this is also frequently quite applicable to stationary exophthalmos needing surgery for cosmetic reasons, is the classical levator recession of Goldstein's.[5] This surgery attacks the condition upon the same anatomical grounds as those used for correcting paralytic ptosis. It is ideal for quiescent cases. The levator is detached from the tarsal plate and recessed posteriorward as it lies above the superior rectus muscle, see Figure 3, and below the septum orbitale, permitting a lengthening of that portion of the lid anterior to the new detachment of the levator to the orbicularis and fascia. One can easily achieve a recession of any amount up to 10 mm. The surgery may be performed through the skin surface or through the conjunctival surface, as one wishes. It

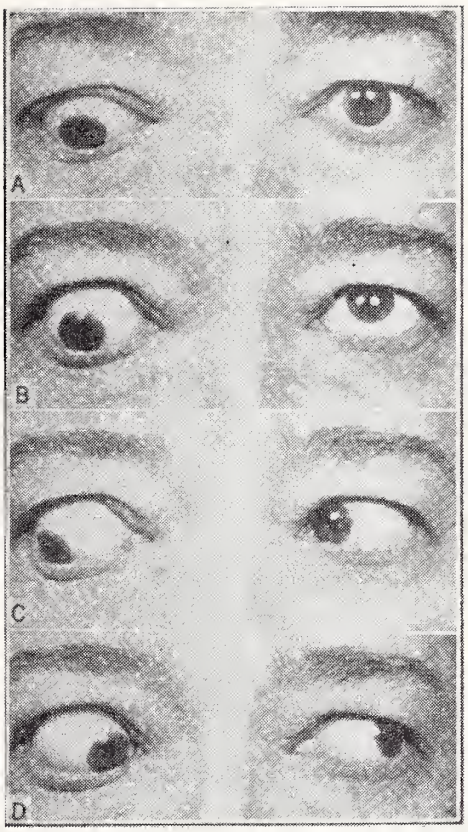

Figure 1—Lagophthalmos from lid spasm. Pituitary exophthalmos.

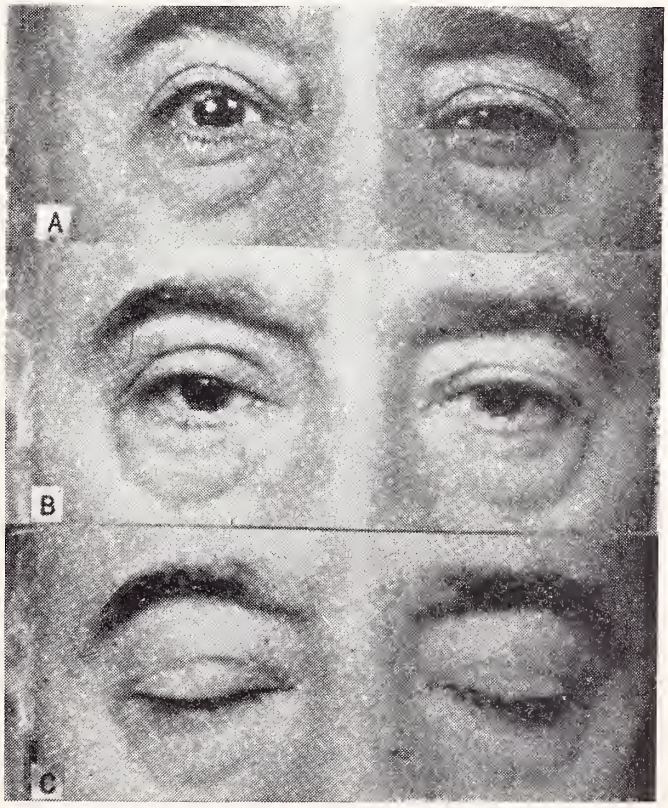

Figure 2—Lagophthalmos on right corrected with levator muscle recession.

seems that the surgery, when done through the conjunctival surface, has a bit less post-operative reaction.

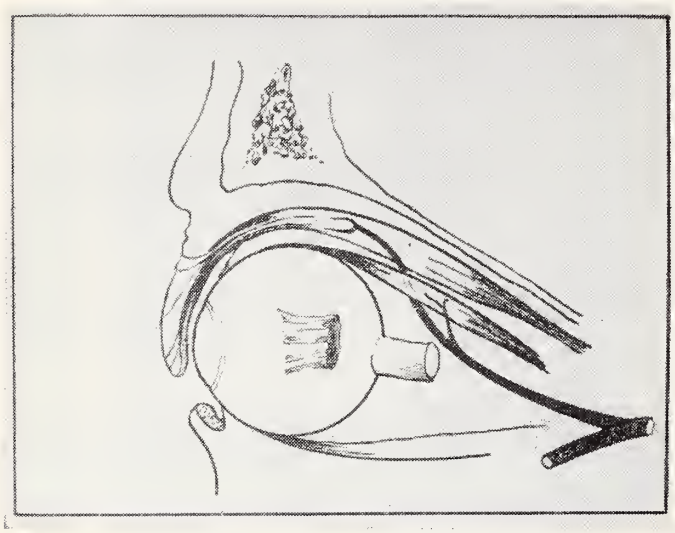

Figure 3—Shaded portion illustrates the position of the recessed levator muscle.

Some of the cases of stationary exophthalmos, when unaccompanied by lid spasm, can be treated by a surgical procedure which is somewhat easier and which has a much shorter period of necessary hospitalization. This is the buried silk suture of Axenfeld.[6] Figure 4 illustrates this suture, and Figure 5 is the result, as seen on a right eye. It is a simple procedure and should correct cases with a moderate degree of involvement. Braided white silk is to be used and one must be most meticulous as to surgical asepsis. The author has had failures with this operation in several instances because of a stitch abscess. That will nullify the entire operation and make necessary the removal of the suture. The technique for this procedure has been frequently presented and does not need detailed mention herein. Figure 6 illustrates a case of thyrotropic exophthalmos which could well be handled with this procedure. Figure 7 is a similar unilateral type. In both of these instances the exophthalmos was stationary.

Mention must be made also of the angle tarsorrhaphy of Wheeler,[7] see Figure 8. It is especially valuable in that one can adjust the surgery necessary for correction of the upper and the lower lid to dissimilar degrees, depending upon which of the two of these needs more correction. There have been several modifications of this, as outlined by Elschnig and by Fuchs. Elschnig's technique spares the cilia and for that reason might be desirable. The two lines of cilia are fused into one and will extend beyond the new canthal angle following a successful operation. This might be a desirable factor in minimizing the appearance of a palpebral fissure which has been shortened in its length. Figure 9[8] illustrates this

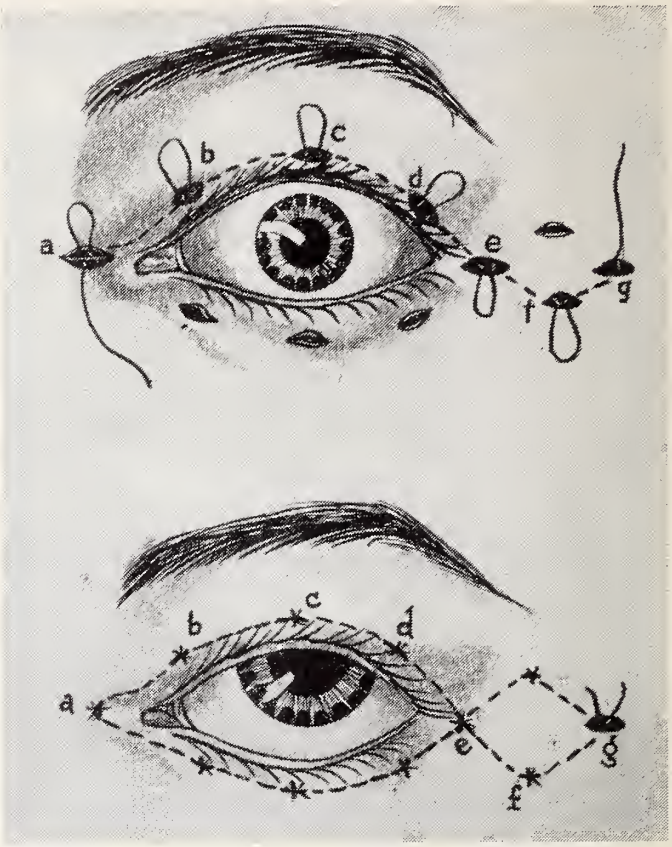

Figure 4—Axenfeld's suture.

Figure 5—End result in correction of lagophthalmos on right upper lid with Axenfeld's suture.

technique. It cannot be used, however, if one or the other of the lids needs a greater amount of shortening.

The surgery for the thyrotropic form of exophthalmos is essentially that of orbital decompression. Figures 10 and 11 is a case of a bilateral thyrotropic exophthalmos of moderate degree. These two, Figures 7 and 10, illustrate that statement already made. In the latter of these two (thyrotoxic versus thyro-

Figure 6—Bilateral thyrotropic exophthalmos.

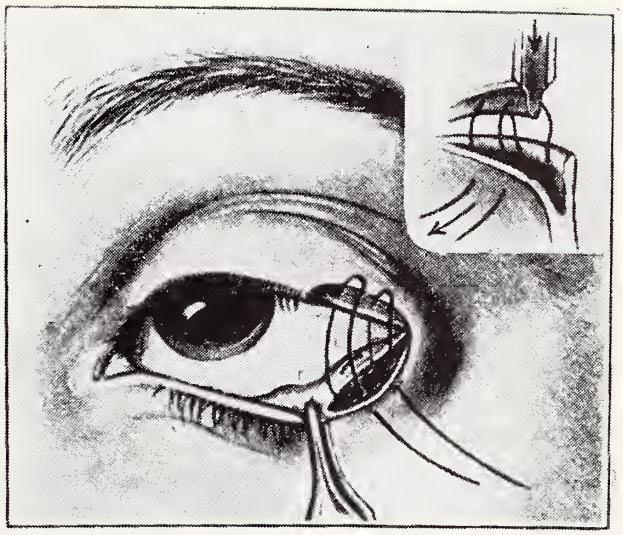

Figure 8—The Wheeler tarsorrhaphy.

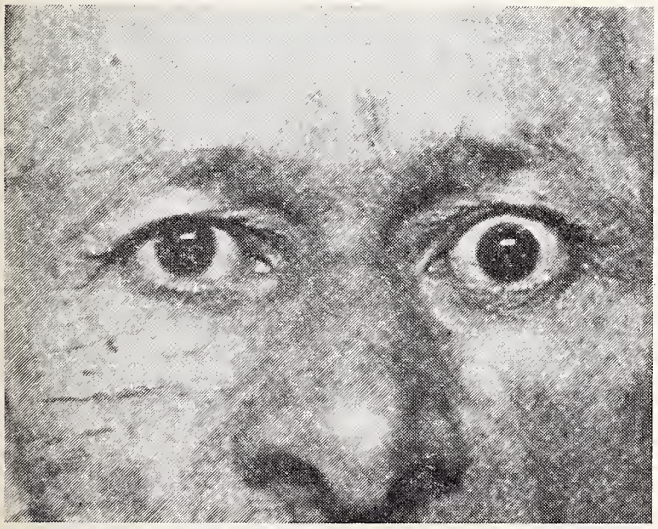

Figure 7—Unilateral thyrotropic exophthalmos (pituitary exophthalmos).

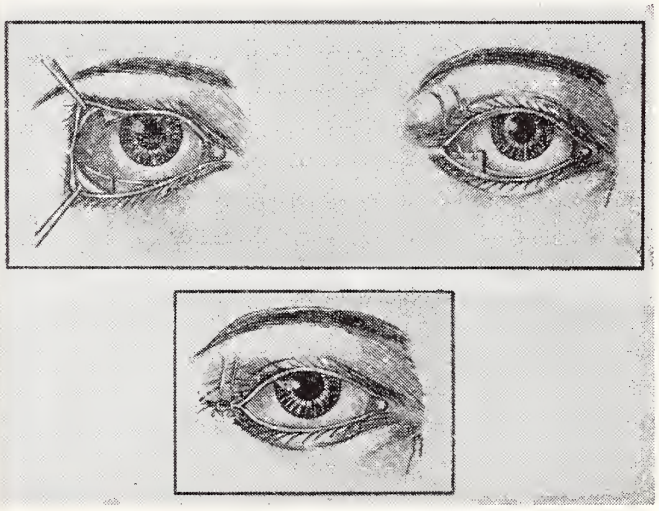

Figure 9—Elschnig's tarsorrhaphy.

tropic pathology), the eyes not the basic disease seem to present the major therapeutic problem.

Much has been written about the transfrontal decompression. This is not for consideration by the author. The subzygomatic decompression as outlined by Shugrue[9] is a satisfactory procedure. The orbitotomy of Kroenlein is not necessary. The decompression which the Shugrue technique furnishes is quite adequate. Figure 12 illustrates the position of the bone resection permitting the release of the orbital contents into the subzygomatic fossa.

In the Shugrue technique one must be certain not to enter the cranial cavity through the sphenoidal bone nor to injure the maxillary nerve at the lower part of the operative field. The purpose of an orbital decompression, as Herman stated so well, "is to relieve edema and congestion in the orbit, and thereby to restore adequate drainage of the extraocular tissues as well."

Malignant exophthalmos, as such, can be nicely treated with this orbital decompression. No other treatment but orbital decompression is successful in these serious situations. In the author's experience there is no great difference in the results obtained from the transfrontal approach and uncapping the roof of the orbit as it lies in the frontal fossa, and the subzygomatic approach and orbital decompression as just described. The author has had one instance of his own and has seen one other instance in whom a transfrontal decompression was done by a nuerosurgeon upon one orbit and a subzygomatic decompression was performed by the ophthalmologist himself upon the other orbit. There was no difference whatsoever in the end results between the two sides, comparing one with the other.

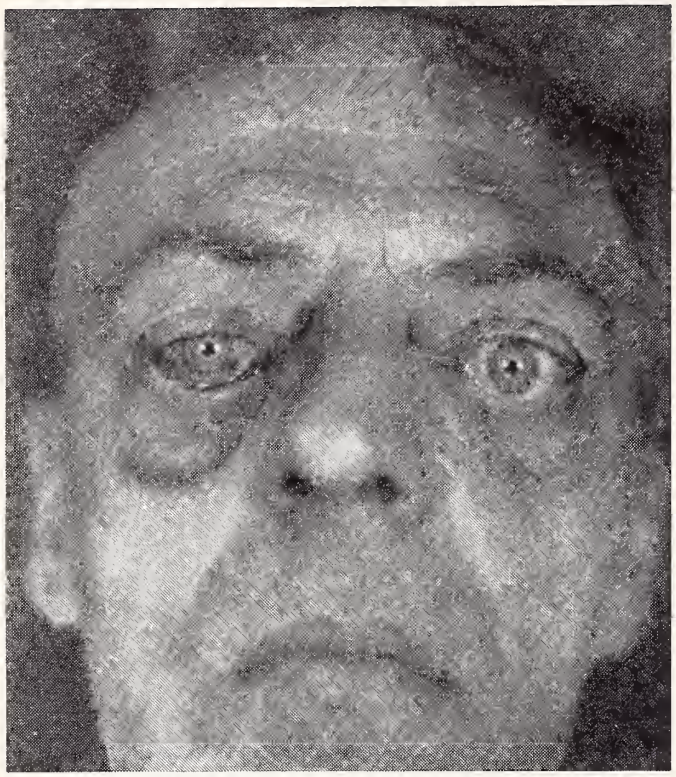

Figure 10—Bilateral pituitary type of exophthalmos.

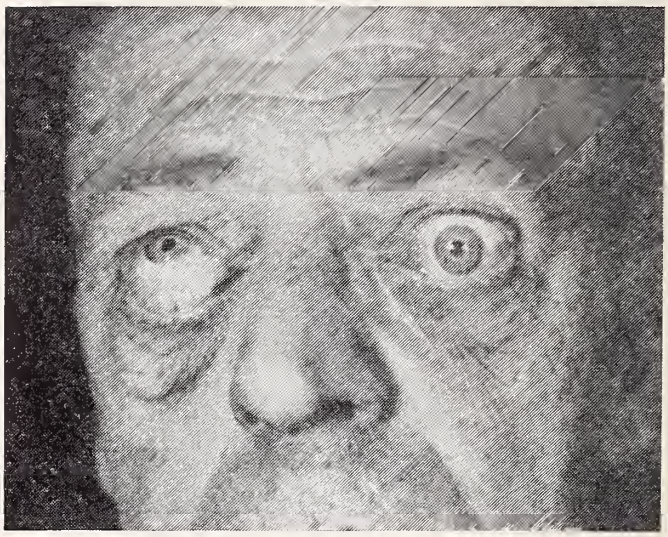

Figure 11—The same case, illustrating the immobile eyeball on the left, the result of muscle degeneration.

A combination of the various operations is not uncommonly indicated, in fact even necessary. This applies especially to such combinations as levator recession plus a tarsorrhaphy, or a tarsorrhaphy combined with an orbital decompression. It is conceivable that almost any combination of orbital decompression, tarsorrhaphy, and levator recession would seem to be indicated under certain peculiar situations.

Conclusions

To recapitulate: the surgical procedures, from an ophthalmic standpoint, which have to do with the ocular manifestation of thyroid dysfunction are essentially four in number. They include: a levator recession; an angle tarsorrhaphy; the treatment of the muscle disturbance, and the probable sequence of necessary surgical procedures for this; and last, an orbital decompression when indicated.

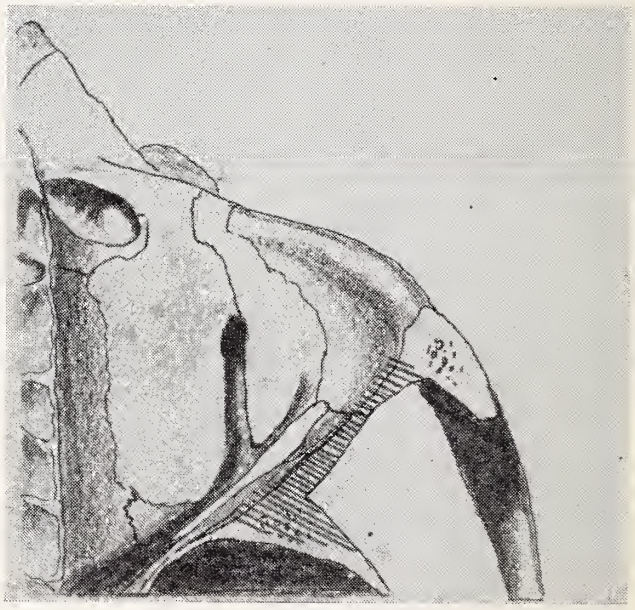

Figure 12—The shaded area illustrates the position of bone resection in subzygomatic decompression.

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THE THYMUS IN EARLY INFANCY

George E. Dash, M. D., St. Andrews Hospital, Boothbay Harbor, Maine

The importance of the thymus in the diagnosis and treatment of some specific conditions of the new born and early infancy, is and has long been a controversial subject. The writer has seen the pendulum swing a number of times—first on the side of a feel- of importance, then to the reverse, a feeling that it is not a factor. However, we have felt that it cannot be ignored, and herewith report three cases of entirely different types in each of which the thymus was a proven factor. One can feel safe in using the word proven if the case should show: first X-ray diagnosis, a broadening of AP and lateral shadows, followed by a diminution after therapy with improvement of the clinical symptoms; second, there are certain symptoms either attributable to the thymus directly or to a reflex activity that clears after treatment; and third—post-mortem findings.

This controversial feeling is undoubtedly due to our ignorance of the functions of this gland. There are many unanswered questions and theories, too many and too uncertain to even mention in the scope of this paper. Outstanding and interesting are several questions: first is the thymus simply a portion of the lymphatic system; or is it a ductless gland with a specific but not understood action? Can it produce mechanical obstruction, causing dyspnoea, cyanosis and suffocation? Third, does it have any reflex action, is it in any way related to pylorospasm or pyloric stenosis? Fourth, can it be entirely disregarded as a factor in the cause of sudden otherwise unexplained death, can we entirely abandon the syndrome of status thymico-lymphaticus?

As to its possible lymphatic origin and function; works on the anatomy and embryology of the gland should be consulted. As a possible ductless gland we can personally recall many theories of its possible action and influence on other structures and activity. To enumerate a few, a possible factor with the thyroid in exophthalmic goitre: mongolian idiocy was at one time thought to be due to a lack of its secretion, and pound upon pound of thymic extract administered: a possible influence on calcium and phosphorus metabolism, affecting growth and nutrition of bones and muscles, a factor in rickets, osteomalacia and some types of dystrophies. There is undoubtedly some connection with muscle tone, as evidenced by the interest today in its relation to myasthenia-gravis. It was felt that a persistent thymus in adults could produce certain characteristic physical conditions, example—tallness, slenderness, thin texture of skin and hair, low resistance to infection and many others. This with others, lacks positive proof, and may be merely over enthusiasm on the part of the observer. This we do know, that the thymus is normally relatively much larger at birth and in early infancy, and its most rapid atrophy is in the first two weeks of life, showing that there must be some unusual and normal function that it performs at this time.

As to the mechanical factor, this is probably the most controversial. One group of pathologists maintains that the gland is too soft in consistence to be a pressure factor, that definite imprint of the trachea, lower larynx, etc., may be seen moulded in it at post-mortem. However, there are two essential factors operating that must be considered; the very small space in the newborn between the posterior surface of the top of the sternum and the anterior vertebral structures, and second, the lack of true cartilagenous development of the rings of the trachea rendering that structure more compressible. Case #1, from a neighboring city, approximately 3 mos. old, had had respiratory difficulty from birth, particularly of inspiratory type with marked substernal retraction; cyanosis was not too marked, except on unsuccessful attempts to cry. The dyspnoea was more marked on flexion or extension of the head and neck, a usual, rather interesting characteristic of thymus compression. There was the usual brassy cough, a typical inspiratory crow, and a persistent hiccough. X-ray showed both lateral and anteroposterior broadening of the shadow, no other chest pathology, and he was given one X-ray treatment by Dr. Goodrich and advised to return for a second and third. This was not done. However, we did see him some four weeks later, and the improvement had been so marked that the family had felt that the one treatment had been enough and did not return on account of distance, expense and "inconvenience." However, we were much impressed by the amelioration of symptoms by the single treatment, lessened dyspnoea, no substernal retraction, and the anxious facial expression replaced by that of a normal baby.

Comment: Many observers feel that too much significance cannot be attached to the broadening of thymus shadow, that the dyspnoea is usually due to some other cause. However Chevelier Jackson has reported some 300 cases in which compression of the trachea by the thymus was confirmed bronchoscopically. Note that while the predominant type of dyspnoea is inspiratory, it may be expiratory or both, and that it may be influenced by the position of the head.

Case #2 illustrates the influence of thymus enlargement on vomiting of infants. This infant, female, age 3 months, was delivered by Caeserian, and was a rather troublesome feeder from the start. At 3

months there was persistent vomiting, semi-projectile, which did not respond to usual therapy, nor did it affect the infants nutrition. X-ray showed marked lateral and AP broadening, 3 treatments were given, the X-ray evidence became normal, and the infant clinically well.

Comment: There is a minor group of milder symptoms which have suggested X-ray investigation and treatment when necessary. The inspiratory crow is almost characteristic in the absence of any laryngeal pathology; a persistent hiccough, and vomiting not due to dietary fault or obstructive pathology. These babies are usually hyperkenetic.

So little is really known about pylorospasm and the etiology of pyloric stenosis, that we must consider the thymus as a possible influence. Much work on the thymus and X-ray therapy was done at the Children's Hospital, Cincinnati, some on my own service. It was the usual procedure to investigate the thymus in all our cases of pyloric stenosis and enlargement was found in a high percentage of cases. One of our X-ray therapists went so far as to feel that pyloric stenosis could be cured by X-ray therapy alone, no operation. Of course we all feel he went too far, but it did impress us as a possible relation.

We are not defending the diagnosis of status-thymico-lymphaticus, and this last case is not reported as such, but as one in which the thymus was the only explaining factor. This infant about one-year old, a perfect physical specimen and a most beautiful healthy baby, suddenly, while sleeping had a severe choking spell, raised some blood-tinged mucous, and choked to death, was dead on arrival at the hospital. Immediate post-mortem showed an enormous thymus covering the anterior surface of the heart and both lungs, almost to the diaphragm. There was no evidence of foreign body in the respiratory tract, nothing in the heart, nor of any possible accident factor. The pathologist's report showed only the very large, thick thymus and no other cause of death could be attributed. This is not reported as status-thymico-lymphaticus but in the absence of any perfect explanation, it makes one wonder just what was the part played by that enormous thymus.

Conclusion: We have reported 3 cases in which pathology (hypertrophy) of the thymus was a factor as proven in two of them by therapeutic test. We have digressed to add a few notes to stimulate a little more interest and to suggest that the thymus be not discredited quite as much as it has been.

CENTENNIAL NEWS

Notes from Minutes of Preliminary Meeting at Brunswick, April 28, 1853

"Agreeably to a call addressed to a portion of the medical profession of Maine a meeting to secure a permanent organization of its members throughout the State was held at the Tontine Hotel, Brunswick, April 28, 1853."

"Dr. James McKeen, of Topsham, was chosen Chairman, and Dr. John D. Lincoln, Secretary."

ARTICLES OF ORGANIZATION

" . . . a committee, consisting of Drs. Hill, Briggs, G. S. Palmer, Libby, Fuller, Garcelon and Benson, was chosen to prepare Articles of Organization." The Articles as adopted, include the following:

"Art. 5. . . . this Association shall consist of the gentlemen here asembled, viz: Isaac Lincoln, James McKeen, Amos Nourse, Cyrus Briggs, T. G. Stockbridge, H. H. Hill, Israel Putnam, Andrew J. Fuller, John Benson, Nathaniel T. Palmer, C. W. Whitmore, G. S. Palmer, Ashur Ellis, John Mathews, Joseph W. Ellis, Cyrus Kendrick, Jr., George E. Brickett, John D. Lincoln, Alonzo Garcelon, J. W. Toward, R. W. Lawson, Abial Libby, J. F. Stanley, N. R. Boutelle, John Hartwell, Stephen Whitmore and Richard P. Jenness, with such other gentlemen as may hereafter be admitted by a majority of the members present at an Annual Meeting."

"Art. 6. Each member, on his admission, shall pay the sum of one dollar into the treasury, and sign the Constitution."

SIMPLE TREATMENT OF SIMPLE FRACTURES

John P. Goodrich, M. D., St. Andrews Hospital, Boothbay Harbor, Maine

Over a four-year period, the three fractures, other than broken ribs, most often seen by us either at the time of injury or for subsequent treatment are, in the order of their frequency: Colle's, Pott's and of both bones of the forearm. This probably approaches the ordinary ratio in civilian practice but an added factor in our case is that these injuries are usually ambulatory from the first or after a short interval. Being in a resort area we see those who soon go home or who have received treatment before coming here. Our experience has been that there is a greater variance in duration and method of follow-up measures than in initial treatment yet this, too, differs considerably. These factors at times make such cases difficult to handle with satisfaction and are perhaps the chief reason, if any, for this summary and report of cases.

The injuries considered have some things in common, X-rays are essential, they are of a severity to require corrective measures, most always anesthesia, and immobilization. X-rays in two or more positions should be taken to determine the extent of bony injury and nature of displacement. We believe in using general anesthesia with ether because it affords better relaxation. We do occasionally use nitrous oxide or pentothal, but have not used local anesthetics. Maintaining position varies with the site of the break.

The name Colle's, later called silver fork, originally described a deformity, rather than pathology. It meant anything from dislocation with or without fracture to fracture of the radius, the ulna, or both these bones near the wrist joint, or to epiphysical displacement in the young. The cause is usually a fall on the palm from the upright position. Classically there is an impacted comminuted fracture of the distal end of the radius with or without fracture of the ulna so that the articular surface of the radius faces downward and backward instead of downward and slightly forward (sometimes it may be at nearly a right angle with the long axis of the bone) as is normal. This results in the characteristic deformity and disability rendering impossible the making of a fist with the wrist in a degree of flexion; the greater the deformity the more the wrist must be dorsiflexed before the fingers can be closed. There is no question of the usefulness of the normal hand and it is important that normal function be returned. Fortunately in practically all cases perfect anatomical position can be attained. The sooner manipulation is carried out the easier the reduction for the reason that the part of the radius involved is cancellous bone and healing is the most rapid of any site in the skeleton. If this fracture is left for even twenty-four hours the return of the fragments to normal position is difficult, therefore we attend to these cases at once if possible. If the patient has something in the stomach we wait only sufficiently long for it to empty. Reduction consists of breaking up the impaction and molding the fragments into position. This is accomplished more easily if the elbow is semiflexed and the hand mid-way between pronation and supination which releases the pull of the long supinator. When position is satisfactory the hand will hang normally when the forearm is supported in a horizontal position. Comparison with any normal extremity will tell if it is right. The same test is useful in all injuries producing the silver fork deformity. Proper reduction tends to maintain itself and some operators have used only a band of adhesive plaster for support. We prefer a palmar and a dorsal molded plaster splint, the former extending into the palm where it is rolled, the later to near the middle of the metacarpals. Aside from slight adduction the hand is placed nearly straight. Pressure must be maintained directly on the fracture fragments, the position of the hand does not influence them except that if the wrist is left in too much flexion the pull of taut extensor tendons may reproduce the deformity. With molded splints, if swelling interferes it is only necessary to cut the bandage and apply another. Pain should be minimum, the necessity of any sedation means something is wrong and correction should be secured before the patient is discharged with a sling for support.

At the end of one week, or ten days at the most, the splints are removed and passive motion instituted after which it is necessary to replace only one splint. The procedure should be repeated every other day and preferably daily. Active motion is often feasible from the first. In from two to three weeks union is complete and all activities can be resumed in from 3 to 4 weeks, sometimes even sooner. If motion is not started early and maintained in these cases, a serious decalcification may occur which is not only painful but prolongs recovery indefinitely.

Pott's like Colle's originally designated deformity rather than specific injury. Caused by a twist of the foot with the body weight added the damage resulting depends on whether eversion or abduction predominated. The simplest is rupture of the internal lateral ligament; the extreme is rupture of the anterior part of the internal lateral ligament with an oblique fracture of the anterior portion of the internal malleolus, rupture of the tibio-fibular ligament and an oblique fracture extending three or four inches up the fibular and fracture of the posterior lip of the

tibia. This is now commonly called a tri-malleolar fracture. If eversion predominated there is rupture of the internal lateral ligament, the internal malleolus is broken square across, there is rupture of the tibiofibular ligament and fracture of the fibula occurs just above the malleolus. There are many variations but eversion and abduction are the main factors.

There is no need for early treatment of this injury, in fact it is often desirable to immobilize temporarily and to wait for swelling to subside. Otherwise the dressing will loosen and become ineffective. We use a well padded circular plaster cast extending from the toes to just below the knee if only eversion is the chief factor, from the toes to the upper thigh with the knee at or near a right angle if posterior displacement and fracture of the posterior malleolus is present. In all cases we think it easier to attain good reduction if the knee is flexed during the process. In the actual manipulation the foot is inverted and dorsiflexed to over-correction. Open operation may sometimes be necessary to get good apposition if the posterior lip of the tibia is broken; we haven't had to resort to it in our cases. The patient with a circular cast is watched closely for several days, and if necessary the cast should be cut down the inside or even bivalved to prevent circulatory obstruction.

In the further treatment of the Pott's group of injuries, union is usually sufficient in three to four weeks for passive motion and soon after that for active motion. In about 6 weeks all dressings can be removed and weight bearing with care started. If longer immobilization is carried out recovery may be much prolonged, occasionally decalcification occurs in spite of early mobilization. We believe the tendency is to leave dressings on too long as the following case reports illustrate.

Fractures of both bones of the forearm are frequent, they are third in number in our list. All have been in the lower and middle thirds, those with bad displacement and over-riding in children. The most common cause has been falling out of a tree. This is the only fracture where we consistently use the fluoroscope in reduction. It is a regrettable fact that so many operators have received burns from using too much current and working too long at a time and have as a result become timid of being near an X-ray machine in operation. We feel safe, we only have about 6 of these fractures a year and a minute of actual fluoroscopic use is a long time in the individual case. Sufficient relaxation and extension is first acquired, the ends of the bones can quickly be manipulated into position even in those cases where it is necessary to roll out of the way interposed soft tissue. Perhaps we have been lucky but most always we have secured end to end apposition of the fragments, in the rare case where we couldn't do as well, we have been satisfied if the fragments are in contact, straight and well apart. The dressings used are important, prepared well padded wooden splints long enough to extend from the hand to the elbow and wider than the forearm. When satisfactory position has been attained these splints can be quickly applied and held in place manually until they can be fastened with adhesive plaster and bandage. Plaster of Paris bandaging takes too much time, it is difficult to maintain position while applying and the circular bandage may pull the two bones too close together. *If position can be secured and maintained so that the fracture ends are in contact, the bones reasonably aligned and the two bones apart, the functional and cosmetic result will be excellent even if the X-rays don't look so good.* We prefer to have scars inside, skin scars are not pretty especially on a woman's arm. Needless to say these cases are carefully watched for any evidence of too much pressure and if such a condition occurs it is corrected at once.

As a rule X-ray will show callus enough in two to three weeks (the better the apposition the less external callus and the slower it is in developing), so that the wooden splints can be removed and better fitting molded splints applied, we have used sugar tongs on two cases that left us before they recovered. Removal of dressings for passive and active motion is delayed longer than in either the wrist or ankle fractures but at 6 weeks all dressings can usually be safely dispensed with.

Case reports:

Case I. M. M., female, age 35—Slipped on the ice in early morning of 1-22-52 striking on right palm, came to the hospital with temporary dressing on wrist at 8 a. m., had taken nothing except water by mouth since midnight. Examination revealed typical silver fork deformity. X-ray showed impacted fracture of distal end of radius, its articular surface directed downward and backward and chip fracture of the tip of the ulnar styloid. Immediate reduction under nitrous oxide and ether anesthesia and immobilization by molded dorsal and palmar splints. Patient preferred to remain in the hospital for 24 hours. X-ray the following morning showed satisfactory position, there was no pain, active motion of fingers and thumb without undue discomfort was possible. She was discharged to return in one week. Upon return splints were removed, X-ray showed no change in position of fragments, both passive and active motion caused very little pain. The palmar splint was replaced and held by bandage, patient returned every day, all dressings and treatment were discontinued 2-11-52, and she was discharged to continue her duties as housewife. Ultimate result perfect as patient has been seen at the Clinic for other treatment, —the wrist and hand are normal in appearance and function.

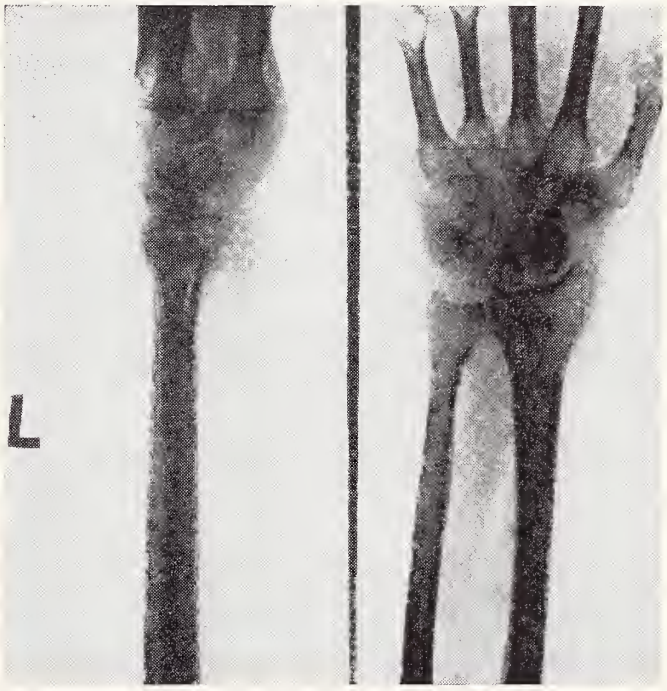
Case II. C. D., female, age 56. Came to Clinic with plaster splints on wrist which had been on for

about 6 weeks for immobilization of Colle's fracture. Her home physician did not think it advisable for her to leave home because of the fracture but she came anyway. After some argument with the patient and her sister the splints were removed and X-ray revealed a healed Colle's fracture in excellent position with marked osteoporosis of the bones of the wrist and hand. There had been some question about the scaphoid but X-ray in oblique positions showed none. The wrist and hand were slightly swollen and red, any motion was extremely painful. Treatment by massage, passive motion and physiotherapy was immediately instituted, was carried on daily and active motion soon started. Improvement was gradual and progressive. Dressings were left off after a few days.

Case I.
Before reduction.

Case I.
After reduction.

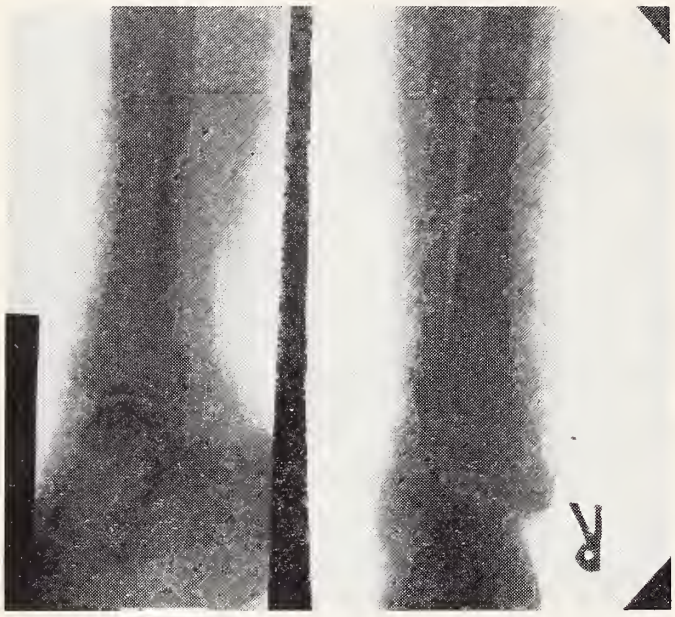
She suffered an epileptic seizure on 8-13-52. X-ray revealed no new fracture but the wrist was slightly injured and this caused a temporary set-back. She continued to improve but was far from recovered when she left our care 8-28-52 to return home and to have perhaps more splints though we advised against their use. The best treatment in such cases is use and more use though it causes pain and swelling. Complete recovery takes 6 mos. to 1 year, maybe longer. We believe early mobilization will most often prevent such extended disability.



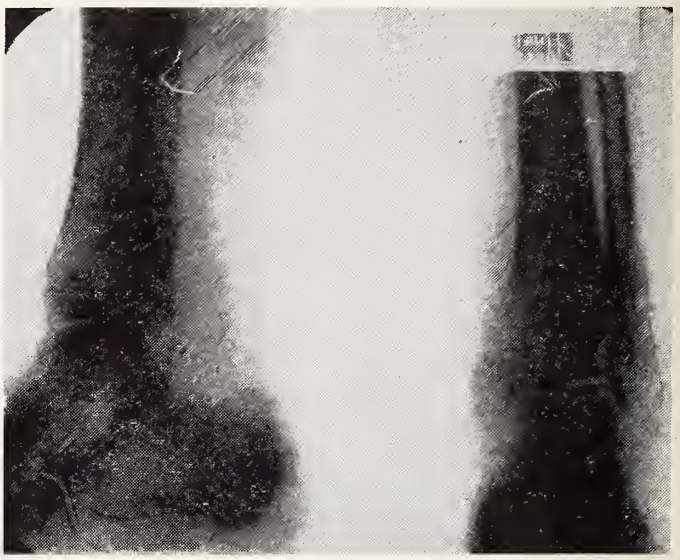
Case II.

Case III. F. F., female, age 60—Entered the hospital 8-30-48 following injury to both ankles, the right markedly deformed. The deformity of the right ankle was easily corrected as it seemed "all afloat" and X-rays were immediately obtained. There was no fracture of the left ankle, the right had a tri-malleolar fracture which could be held manually in fair position. As the swelling was considerable the patient was put to bed and the right ankle immobilized with a woven wire splint. Only after 5 days did we think the swelling sufficiently subsided to put on a permanent dressing. Ether anesthesia was used and a cast applied from the toes to well above the flexed knee with the foot inverted and dorsiflexed. X-ray showed satisfactory position, cutting the cast was not necessary. The patient remained in the hospital until 9-22-48 at which time X-ray showed no change in position. The following day the patient left for her home in New Jersey. We advised that the cast be removed about 5 weeks after application, the physician caring for her removed it at the end of the first week in November, about 8 weeks. X-rays at the

time revealed good position, the physician reported that the fracture lines still showed, there was moderate decalcification. Recovery was slow taking until the late spring but was finally nearly perfect, the patient returning the following year and stating that the ankle was as good as ever. It showed no abnormality when compared with the other ankle.



Case III.
After gross deformity had been corrected.



Case III.
After final removal of dressings.

Case IV. Mrs. R., age 55—Wife of physician, came for X-ray of ankle 7-14-49, the ankle encased in a rigid laced leather support. Fracture occurred early in March, she still wore support as attending surgeon feared spreading of malleoli. X-ray showed healed oblique fracture of the fibular without deformity and rather marked degree of osteoporosis. Ankle was red, motion was painful, she used a cane. We advised removing of all dressings and normal use to the limit of patient's ability to stand the hurt as well as physiotherapeutic measures. Advice was not heeded, we saw patient several times during the summer, X-rays did not change appreciably and she left in the fall still wearing the leather splint and little improved during 2 months. We do not know how long was required for recovery, we did not see her again professionally but the following summer she was in the community and walking with only a slight limp.

Case V. G. H., female, age 10, appeared 12 plus. 7-17-49 suffered green-stick fractures of middle thirds of both bones of forearm without noteworthy deformity. History that her home physician said her bones did not heal well. As there was no need for manipulation immobilization was by molded plaster splints. 8-3-49 fractures were in good position, callus seemed normal for this time and by the third week of August healing was complete and function normal. 9-3-49 the girl fell off a step sustaining another injury to the same forearm with much deformity. That the union of the other fractures had been good was revealed when X-rays showed the present fracture site of the ulna ½ inch distal to the original, the radius was broken at the same level as before. Reduction with ether anesthesia. Partly because of callus end to end apposition was not secured but the bones were in contact, well apart and in good alignment. Immobilized with wooden splints. Twenty days later the patient prepared to leave for home, the wooden splints were removed and sugar tong molded splints substituted with a right angle splint for the elbow. When the patient arrived home with her X-rays the home physician was much concerned, was sure an open operation would have to be done. After some correspondence he was persuaded that the forearm wouldn't drop entirely off when the splints were removed and it didn't. X-rays taken the following summer are shown with the ultimate result. Function is perfect, there is no external evidence of the injury, the arm appears as the normal right. We have seen the girl each year since the accident and there has been no change to date.

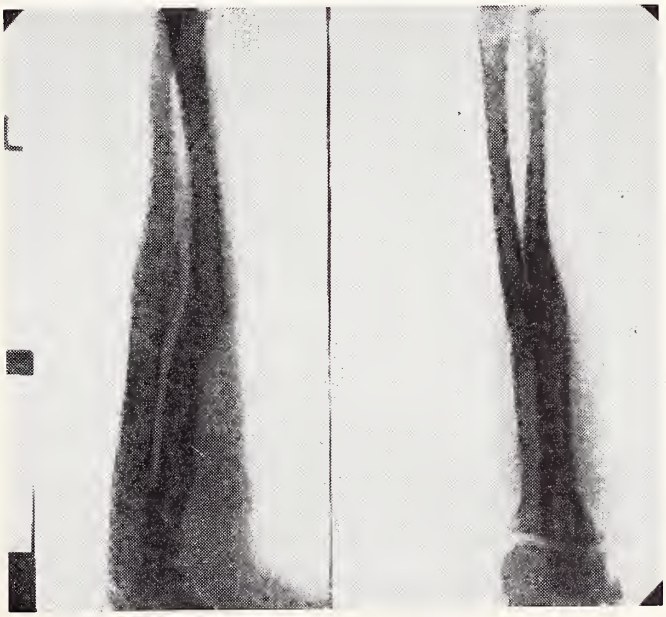
The cases reported that were initially treated here are neither the simplest nor are they the most difficult we have had. The results are what we have come to expect. We feel that good functional and cosmetic results can be obtained by manipulation, that too often open operative reduction of fractures is performed without even an attempt at closed reduction. We also think that many fractures are immobilized too long, if the reduction is good X-ray shows very little callus, the fracture lines persist for a long time.

If a big visible callus is desired displacement of fragments will produce it but even so often the functional result will be good and the external evidences of fracture minimum or absent. Fractures were treated with good results long before Roentgen made his discovery.

Case IV.
3 films taken during 2 months showed no change.

Case V.
Immobilized with wood splints.

Case V.
After second injury.



Case V.
1 year after injury.

GASTRO-INTESTINAL BLEEDING — CASE REPORTS

Philip O. Gregory, M. D., St. Andrews Hospital, Boothbay Harbor, Maine

During the past year we have had eight cases of gastro-intestinal bleeding. All of these cases were at first treated medically. Three of them eventually came to surgery. One of our cases died. The chief complaint in each was that of severe weakness due to acute loss of blood. Onset in all of them was sudden. Case reports follow:

Case I—A 16-year-old white male who had apparently always been in good health. Prior to admission, without previous physical symptoms, he had 8 to 10 bulky, black, tarry bowel movements, following which he had severe weakness that restricted him to bed. Upon admission to the hospital he showed marked evidence of blood loss. He was an apprehensive, well developed boy with pale mucous membranes, pale skin, pale nail beds, rapid pulse and low blood pressure. Rbc. 2.9 million with 50% hemoglobin. He was given bed rest, nothing by mouth, and two thousand c.c.'s of blood during the first 24 hours. The next day the patient had no bowel movements and no discomfort. He had a fair night. Pulse remained about 100. Blood pressure did not fall below systolic pressure of 100. At about 10 a. m. however patient had sudden bright red hematemesis and count dropped to 2.2 million Rbc. and 36% hemoglobin. Five thousand units of topical thrombin were given by mouth and retained. One thousand c.c.'s of whole blood was given slowly intravenously. The next day (2 days after admission) he was maintained on I.V. feedings. Pressure and pulse remained stable. On the third day following admission, the patient had a soft black stool followed by bright red hematemesis of about 400 c.c.'s. He was again transfused with 1500 c.c.'s of blood. Pressure had never fallen to shock level nor had patient lost consciousness. Repeated oral doses of 20,000 units of topical thrombin were administered. Rbc. 2.5 million with 46% hemoglobin. Up until then he had had nothing by mouth, but he was given some skim milk as a trial on the 7th day. Two hours later he had a drop in blood pressure, a rise in pulse rate, color became pasty white and his count dropped to 2.4 million with 50% hemoglobin. Obviously bleeding had recurred. Twenty-four hundred units of topical thrombin were given orally along with 500 c.c.'s of citrated whole blood intravenously and he was placed on nothing by mouth again. Two days later (9 days since admission) was doing well on I.V. fluids. There was no evidence of further bleeding, so he was started on milk without untoward effects. Blood pressure and pulse remained steady. Fifteen days after admission X-ray studies were made which showed only an irritable duodenal cap. It was our impression that this probably represents a subsiding inflammation of healing process of a shallow ulcer which had healed over. This patient was placed on ambulatory ulcer diet with tincture Belladonna before and Amphojel after meals, and discharged from hospital to be followed at Clinic.

Case II—This 63-year-old white male experienced an attack of vertigo while at work on July 9. He was taken home, and on getting up from the toilet he fainted. The morning of admission to hospital, he was dizzy and could not stand. There was no previous history of gastro-intestinal difficulty. On admission he was noted to be well developed, well nourished and in no acute distress. His color was pale, pulse rate 108, blood pressure 100/70. His Rbc. was 1.7 million with 38% hemoglobin. His stool was black. He was given 1000 c.c.'s of whole blood on the day of admission. Next day his count was 2 million Rbc. with 40% hemoglobin. He was still dizzy, but in general improved. He was given another 1500 c.c.'s of blood. Nothing was given by mouth. His bleeding had apparently stopped. Pulse rate 90 and blood pressure 120/80. On the fourth day following admission his Rbc. was 2.8 million with 58% hemoglobin. He was given another pint of blood and started on milk by mouth. Six days after admission X-ray studies showed a duodenal ulcer of long standing, large amount of scar tissue in bulb. Thirteen days after admission patient was discharged to his home on Amphojel with Belladonna and an ambulatory ulcer diet. His Rbc. was 3.4 million with 72% hemoglobin. He is feeling very well, and will be followed closely in the Clinic.

Case III—A 46-year-old white female schoolteacher admitted because of weakness:—Two days before admission she did not feel well, became gradually weaker until day of admission she started to bleed from her bowels. She gave no previous history of disease. She was a well developed, well nourished female, with extremely pale mucous membranes and blanched skin and conjunctiva. Pulse rate was 115 and blood pressure 100/55. No other significant physical signs were noted. Her Rbc. was 2 million with 35% hemoglobin. She was given 500 c.c.'s of blood on admission, followed by Travert 1000 c.c.'s. The 2nd day she was bleeding and vomited blood. That day she was given 1000 c.c.'s of whole blood. Her count the following day was 1.4 million Rbc. with 28% hemoglobin. On the third day after admission there appeared to be no bleeding, but 500 c.c.'s

of blood was given, and by mouth, milk containing one strip of finely broken Gelfoam. On the fourth day after admission she received 1000 c.c.'s of whole blood, and during the next five days she received 5000 c.c.'s of blood. At the end of 10 days her blood count was 3 million with 62% hemoglobin. Her bleeding had stopped. Another 1000 c.c.'s of blood was given on the 12th day following admission. Then X-ray studies were made which showed no evidence of organic disease of the G.I. tract. Eighteen days after admission an exploratory laparotomy was done, but no lesion was found in the G.I. tract. Patient was discharged from the hospital twenty-nine days after admission with a Rbc. of 3.8 million and 76% hemoglobin. Although no cause of bleeding from the intestinal tract was ever discovered, the patient had no hemorrhage for about 2 weeks. Recovery from surgery was rapid and without complications, and she was discharged recovered from attack. There has been no recurrence to date.

Case IV—A 32-year-old well developed, well nourished white male was admitted to hospital following a bout of hematemesis and hematochezia. He gave no history of previous gastro-intestinal upsets. On admission his pulse was 100 and his blood pressure 90/50. He had pale skin—cold and clammy to the touch, pale lips and mucous membrane, pale to cyanotic nail beds. Blood count was 3.8 million with 20% hemoglobin, however 4 hours later it was 2.4 million with 53% hemoglobin. He was given bed rest and nothing by mouth for the next 48 hours, and was fed intravenously during this time. X-ray studies of his stomach and duodenum, as well as barium enema of his colon, revealed no pathology. Physical examination revealed nothing of significance. On the third day after admission he was given milk by mouth and 500 c.c.'s of blood intravenously. Next day an exploratory laparotomy was done and Meckel's diverticulum with hemorrhage was found about four feet from the ileo-cecal valve. This was resected and an end-to-end anastomosis was done. Also, a kink in the ascending colon was straightened out by removing some firm adhesions in this region. Appendectomy was done. The patient made an uneventful recovery and left the hospital on the 8th day postoperatively. He is being followed in the Clinic and is doing well at this time—6 months following hospitalization.

Case V—This 37-year-old white male was admitted to the hospital having tarry-black stools. He gave a history of epigastric distress from time to time, extending back over a period of 6 years. Never had been actively treated but always was relieved by milk and cream diet which he instituted himself whenever an "attack hit him." Now, however, he was getting no relief from his own treatment. Aside from his present illness he had never been ill. He was a thin, small, well developed, fairly well nourished man with no significant findings on physical examination. Blood pressure 155/95. Pulse rate 86. Blood count showed 4.9 million Rbc. with 100% hemoglobin. He was obviously dehydrated upon admission to hospital and treated by intravenous feedings. X-rays of his stomach taken on the day following admission showed a gastric ulcer about ½ inch in diameter and ½ inch deep. After giving the patient two transfusions of 500 c.c.'s each, and further supportive treatment with 5% glucose with Solu B and Vitamin C he was prepared for surgery. Three days after admission a subtotal gastrectomy, Polyu type, was done. The two-thirds of the stomach including the ulcer was removed. The patient made an uneventful recovery and was discharged to his home 10 days following operation on a regular ambulatory ulcer diet. The pathological report was chronic peptic ulcer (active) and chronic hypertrophic gastritis. This patient has been followed in the Clinic and was placed on a regular diet four weeks after surgery. He is back at work and has gained 9 pounds six weeks following surgery.

Case VI—A lawyer, age 65, white male was admitted to the hospital following the vomiting of two cupfuls of coffee ground material, followed later by passing of tarry stools. He had always been in good health except for a period of 3 months 15 years ago when we was under treatment for an ulcer. He didn't know where the ulcer was located—whether in the stomach or duodenum. On admission he was found to be well developed, well nourished white male in no acute distress. There were no abnormal findings on physical examination. His pulse was 96 and blood pressure was 100/72. Laboratory reports show 3.2 million Rbc. with 64% hemoglobin. He was given bed rest, nothing by mouth for 24 hours, intravenous feedings and 500 c.c.'s of blood. On the third day after admission he had apparently stopped bleeding. Pulse 76 and blood pressure 124/82. He was started on Belladonna, ambulatory ulcer diet, and Amphojel. His stools returned to normal color on the 4th day. X-rays taken 5 days after admission showed a niche in the duodenal cap with considerable scarring. Patient was discharged from the hospital on a medical regime. To be followed in the Clinic.

Case VII—A 43-year-old male carpenter was admitted because of profuse rectal bleeding. He gave no history of previous trouble, had always been in good health. On admission he was found to be thin and emaciated appearing to be chronically ill. Physical examination revealed nothing abnormal. His pulse was 100 and blood pressure 124/80. Blood count revealed 3.2 million Rbc. with 60% hemoglobin. He was given 500 c.c.'s of blood and placed on an ambulatory ulcer diet with tincture Belladonna

before meals and Amphojel after. X-ray studies two days after admission, and after bleeding had stopped revealed a large deformity in the duodenal cap. Patient was discharged from the hospital on a medical regime. He had been followed in the Clinic and found to have gained four pounds in seven weeks. There has been no further bleeding up to this time.

Case VIII—This short, obese female, age 37, was admitted to the hospital because of abdominal distress. She had been treated for gall bladder disease, gastroenteritis and duodenal ulcer at various times during the past five years. Upon admission she was found to be five feet tall and weigh 350 pounds. Physical examination revealed some tenderness over the upper abdomen but nothing could be localized because of the obesity present. She was restless, uncomfortable, distressed, and complained constantly of thirst. Rbc. 1.4 million with 30% hemoglobin. She was given 500 c.c.'c of blood with great difficulty. Five days after admission she passed a liquid, tarry stool, and bright blood. She was fed by clysis since it was now impossible to find a vein for transfusion. Patient became gradually worse and died seven days after admission. This patient never was in condition for surgery and in any case the obesity seemed to preclude surgery. A post-mortem examination revealed an area of pronounced ulceration in the duodenum which was obviously of longstanding, since the muscularis had been completely replaced by fibrous tissue. The surface of the ulcer was covered by a fibrinopurulent exudate beneath which was a moderate amount of granulation tissue infiltrated with lymphocytes and plasma cells. There were several dilated vessels in the ulcer bed, from which the terminal hemorrhage may have occurred.

CASES OF PROBABLE SUICIDE IN YOUNG PERSONS WITHOUT OBVIOUS MOTIVATION* **

A. Warren Stearns, M. D., Professor of Sociology, Tufts College, Medford, Mass.

Thirty years ago, when studying suicide in Massachusetts, there was a case which stood out as different from the others. The case was reported by Dr. Fred H. Baker, Medical Examiner of Worcester, a man of many years' experience, a trained pathologist, and an exact observer. A young man, healthy, normal, or at least within the limits of normal, went to a dance with his sweetheart, returned home, kissed his mother good-night, told her what a good time he had had and what a fine girl she was, and apparently went to bed. In the morning he was found hanging to a bedpost, dead, clad in a dead sister's underclothing.

Since then such cases have occurred from time to time and have been studied insofar as circumstances warranted. They are relatively infrequent. There have been one or two a year in Massachusetts out of between 450 and 500 suicides. Data on these cases were so fragmentary that they did not lend themselves to systematic study. For this reason all death certificates of suicides under twenty-one years of age, between 1941 and 1950, have been copied and the data studied. Besides the reports of medical examiners and police departments, we have consulted family physicians, school teachers, newspaper clippings, hospital records and, in certain cases, relatives and friends.

In the ten-year-period, 1941-1950, inclusive, there were recorded 4,891 suicides in Massachusetts. Of these, 97 were under twenty-one years of age and 25 came within the pattern in which we were especially interested.

Throughout the years there has accumulated considerable data concerning suicide. Most writers agree that it increases in western civilization. Chart No. 1 tends to confirm this. It will be noted that while the suicide rate has been increasing, the homicide rate has been going down. This increase is as yet unexplained. Morselli[1] suggests that it is due to some insidious factor in civilization itself. Durkheim[2] rather infers that the spread of the Protestant religion is responsible. The Massachusetts figures ought to be unusually good. The collecting of vital statistics in this state began in 1841 and since 1885 every violent death has been investigated by a medical examiner, who has a certain police function. The picture has been somewhat mutilated, during the past few years, due to religious and sentimental pressure, so that medical examiners have reported some cases which seem probably to have been suicide as "accidental death" or "death due to temporary insanity". It would seem as if adjustment should be made so that we could have true facts without undue injury to the sensibilities of the persons involved.

Chart No. 2 shows the relation of the total suicide rate in Massachusetts between 1918 and 1950 to the rate below twenty-one years of age and between ten and twenty.

There are general factors which influence the suicide rate. It is less common among Catholics and less common among southern cultures. There is a seasonal factor, it being more common in the spring

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* Read at a meeting of the Boston Society of Psychiatry and Neurology, December 18, 1952.

** This research was supported in part by a grant from the United States Public Health Service.

Chart No. 1

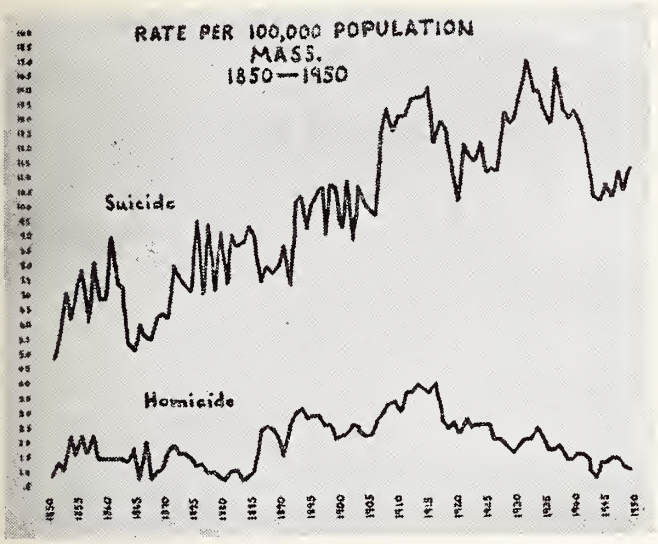
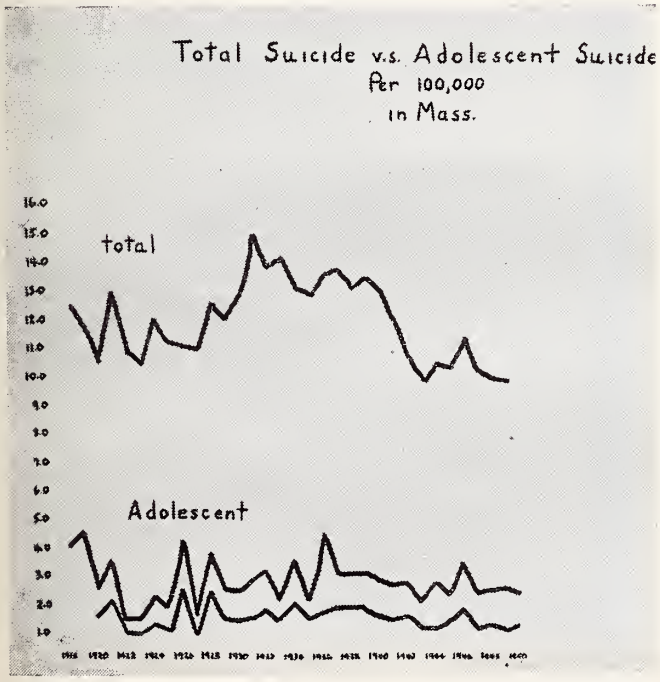


Chart No. 2



north of the equator and in the fall south of the equator. Men predominate in western civilization; this is reversed in the Orient, that is in Japan, China and India.

We are concerned with individual factors. In our previous studies[3, 4] we found, roughly, one-third to be frankly insane, one-third to be facing some tremendous emotional trauma, and the other third under some emotional stress applied to people, while not insane, obviously psychopathic, or at least vulnerable.

Child suicide, in our case suicide under twenty-one years of age, is relatively rare. In the series studied there was an incidence of 1.9%, whereas approximately 35% of this population are over twenty-one. This same relative infrequency among young persons was noted by Brierre De Boismont[5] and Arthur L. Beeley.[6] For what it is worth, the percentage under twenty-one, according to the French figures of 1856, was 6.5 for Paris and 5.6 for all the provinces, as contrasted with our percentage of 1.9.

An analysis of our series is shown by the following tables.

Table I
Age

Age	No.	%
20	16	16.5
19	21	21.6
18	15	15.5
17	10	10.3
16	9	9.3
15	8	8.3
14	10	10.3
13	2	2.3
12	3	3.1
11	3	3.1
	97	100.3

Table II
Sex

Sex	No.	%
Male	72	74.2
Female	25	25.7
	97	99.9

Table III
Year of Death

Year	No.	%
1941	3	3.1
1942	11	11.3
1943	7	7.2
1944	7	7.2
1945	14	14.4
1946	14	14.4
1947	8	8.3
1948	9	9.3
1949	14	14.4
1950	10	10.2
	97	99.8

Particular attention is called to the large number fourteen years of age.

The method of suicide is shown graphically in Chart No. 3.

It will be noted that there is an excess of hangings and shooting. Chart No. 4 shows the relative consistency of method; that is, it is not only possible to predict with a good deal of accuracy the number of suicides which will occur each year, but it is also possible to predict the method which will be used.

An attempt to arrange the cases by causative factor, of course, is very difficult. Beyond the age of sixteen, it appears to follow the pattern of the older years. As in former studies, leaving out the twenty-five hangings in a special category, which will be discussed later, the cases fall into fairly well defined categories. Twenty were frankly insane; they were either in, or had been in hospitals, with an accurate diagnosis and satisfactory case studies were available.

TABLE IV

Place of Death

Place	No.	%
Home	44	45.4
Institution	6	6.2
Woods	9	9.3
Automobile	2	2.1
Private Garage	2	2.1
Field	2	2.1
Other (including outbuilding)	15	15.5
Unknown	17	17.5
	97	100.2

TABLE VI

Juvenile Suicides
Causative Factors

		No.	Per cent
Mental Disease		20	20.6
Physical Disease			
Tuberculosis	1		
Diabetes	3		
Epilepsy	1		
	—	5	5.1
Alcoholism		6	6.1
Plus Illegitimacy	1		
Plus Jilted	1		
	—		
Drugs		2	2.0
Pressure From Without			
Rejected by Navy	1		
In Prison	1		
Rejected Suitor	3		
Illegitimacy	2		
Death of Lover	1		
In Police Station	1		
Anxiety Over Admission to Med. School	1		
Quarrel with Mother	1		
Reprimand in School	1		
Marital Difficulty	2		
Suggestive Movie	1		
	—	15	15.4
Vulnerable		11	11.3
Hanging Without Obvious Motivation		25	25.7
Unknown		13	13.4
TOTAL		97	99.6

TABLE V

Method by Age and Sex

Method	Age of Females										Total Females		Age of Males										Total Males		GRAND TOTAL	
	11	12	13	14	15	16	17	18	19	20	No.	%	11	12	13	14	15	16	17	18	19	20	No.	%	No.	%
Firearms	0	0	0	0	1	0	0	0	1	1	3	12.0	0	1	1	0	0	2	6	6	9	4	29	40.2	32	33.0
Poison	0	0	0	1	1	0	0	1	3	1	7	28.0	0	0	0	0	1	1	0	1	0	1	4	5.6	11	11.3
Hanging	0	0	0	0	1	0	0	0	0	0	1	4.0	3	2	1	8	3	5	2	2	1	4	31	43.0	32	33.0
Gas	0	0	0	1	0	0	1	3	5	1	11	44.0	0	0	0	0	1	0	0	1	1	1	4	5.6	15	15.5
Jumping	0	0	0	0	0	0	0	1	0	0	1	4.0	0	0	0	0	0	0	0	0	0	1	1	1.4	2	2.0
Cutting	0	0	0	0	0	0	0	0	0	1	1	4.0	0	0	0	0	0	0	0	0	0	0	0	0.0	1	1.0
Drowning	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	1	1	2	2.8	2	2.0
Crushing	0	0	0	0	0	1	0	0	0	0	1	4.0	0	0	0	0	0	0	1	0	0	0	1	1.4	2	2.0
TOTAL	0	0	0	2	3	1	1	5	9	4	25	100.0	3	3	2	8	5	8	9	10	12	12	72	100.0	97	99.8

Chart No. 3

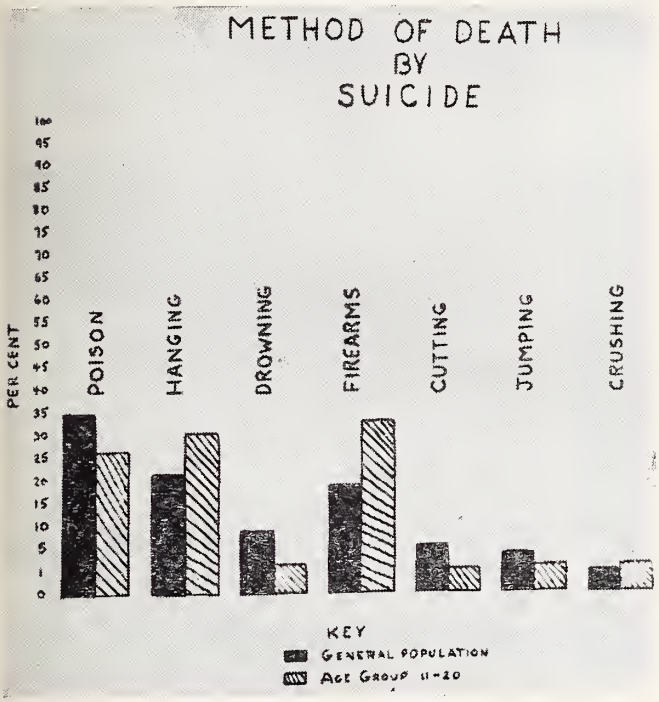
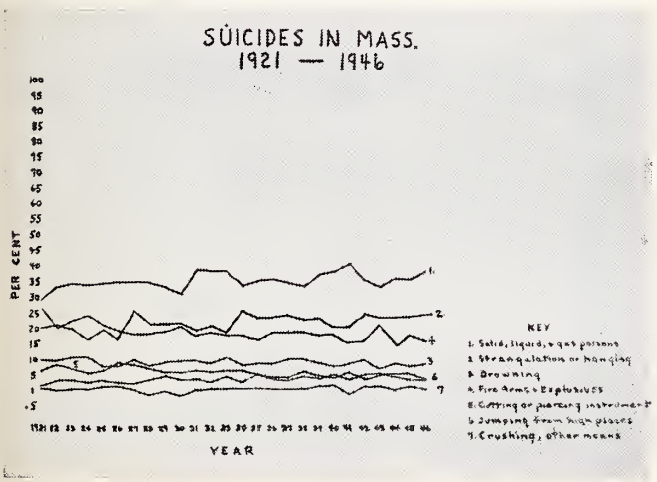


Chart No. 4



There remained a residuum of fine young males, nearly all between the ages of eleven and sixteen, with a record of good health, good personality, good standing in the community, showing a good deal of leadership in their school life, who, for some reason not obvious, hung themselves. The pattern appears quite characteristic. They frequently take off their clothes, less frequently put on women's clothing; some tie themselves up, that is, tie their hands and feet together. The means are somewhat improvised—a chain, belt, suspenders, or other article of clothing, an old rope. Their feet or legs are often touching the ground. The circumstances do not indicate much premeditation, although three have left a note of some sort.

A considerable search through the literature has not revealed descriptions of these cases, with two exceptions. De Boismont[5] mentions the case of a boy of twelve, who was sent by his father to the stable to see whether the horses had enough food for the night. The child obeyed. A quarter of an hour passed and he had not returned. The father called him and, receiving no response, took a lantern and went to the stable. Hardly had he opened the door when he perceived his child hanging by a cord to the stable rack. Happily the child had placed his feet on the edge of the manger, with the result that asphyxiation was not complete, and his father, hastening to cut the cord, was able to restore him to life. Asked about his motive in wishing to end his life, the child replied that he didn't have any, that the idea had come to him all of a sudden and that he had been impelled by an irresistible force. This case appears constantly in the French literature since that date.

In his book, *Forensic Medicine,*[7] Keith Simpson gives the following case:

> "A naked youth was found in a lavatory hanging half off the edge of the seat, the penis turgid and dribbling semen, suspended from the neck by a rope to the inlet pipe of the cistern above. Several front-page nudes from a picture newspaper were laid out in a half-ring in front of him on the floor. Death was due to vagal inhibition and must have taken place suddenly, without warning. These cases must not be mistaken for suicides; they are accidental deaths."

It is to be noted that Dr. Simpson believes that these are masochistic deaths; in fact, in correspondence he refers to them as such. This point of view is to some extent accepted by Richard Ford of the Department of Forensic Medicine, Harvard University. Dr. John Max Wilcox, who has long been interested in the Esquimaux, has frequently heard that Esquimau children hang themselves in some kind of game, presumably sexual, in Baffin Land. Also, Miss Alice Bridges[8] in an appendix to Coon's *Reader in General Anthropology* gives the following description of a custom among the Yahgans: "One custom the Yahgans had in old times and of which, oddly enough, we have found no mention among those of our father's papers in our possession, was to tie something tightly around the neck to induce partial strangulation; they said that in this half stupefied state they saw beautiful colours. Our father was once called to the aid of a young woman who had lost consciousness through binding her neck too tightly and whom the other Indians thought to be dead or dying; she however recovered."

The phenomenon is occasionally seen among adults in its complete form, that is, the transvestism and the tying-up.

Case Reports

No. 1. Age, 14. A normal boy, so far as could be determined; active in the Boy Scouts, athletic, religious, hung himself to a water-pipe in the cellar of his home. He had changed his clothes, that is, he had taken off his best clothes and put on play clothes. His feet were touching the floor. Had been to a movie in the afternoon, where a picture was shown in which three Nazi war criminals were hung. The boy's father had been dead for five years. Neither the police nor the Medical Examiner could determine any motivation.

No. 2. Age, 14. Slow in school; disliked school and had threatened to run away. Had been on probation for petty stealing. Was found hanging in the cellar of his home at 11.30 A. M., fully clad.

No. 3. Age, 14. Said to have been a normal boy. With two other boys he was picking chickens, the chickens hanging by a rope from a beam, with a noose to hold the feet. The other boys went out to lunch. He took off his shoes, stood on a milking stool, put his head through the noose, and kicked away the stool. The boys found him dead when they returned.

No. 4. Age, 14. Said to have been a normal boy, active in school affairs. Went into the remote woods, took off his clothes, which were found piled neatly nearby, put on a woman's panties, skirt and brassiere, and hung himself to a tree. His feet were off the ground. A note found in a wastebasket in his room said, among other things: "Please note I would like six volunteers to come to my funeral. Pall bearers are so hard to get in these days of strikes and whatnot."

No. 5. Age, 17. A state ward. No history of any mental change or social stress. Found hanging in his home, fully dressed, swinging free in the air. Penis erect. (Note: Erect penis and emission of semen said to occur during hanging.) See Glaister,[23] pp. 168-9 and Draper,[24] p. 287.

No. 6. Age, 15. Said to have been depressed for some time. Chained his hands and feet together with a heavy chain, put a chain around his neck and hooked it into a fall and tackle, climbed a ladder and stepped off, hanging himself. Following his death, at autopsy, his rectum was said to be dilated and a man was sent to prison for rectal intercourse with him.

No. 7. Age, 16. A healthy boy, said to have been gentle, friendly, immaculate, was playing ball, started home for supper, bent over a small oak tree, took off all his clothes except his shoes and stockings, wrapped his belt around his neck and around the tree, and was found hanging the next morning. His father and mother were separated, but it was brought out that he seemed very happy in his adoptive home.

No. 8. Age, 20. Of borderline intelligence. Found hanging in the woods, dressed in a man's jersey and shorts, white socks, army shoes, a woman's silk blouse and plaid skirt. Two women's slips were found nearby. Said to have frequently dressed up in women's clothes.

#1. (Not in series.) 14-year-old boy. Fully clothed; feet on ground; arms over limb of tree; loose noose.

No. 9. Age, 11. A serious social problem, who had been studied for a year in a Mental Hygiene Clinic. Hung himself from a tree on the way to school, at noon, in a little thicket, with a noose made from a woman's silk stocking. Said to have quarrelled with his mother because he wanted a bicycle and she refused.

No. 10. Age, 12. His parents had gone out for the afternoon. On their return home, they found him hanging in the cellar, the body leaning against a chair. Said to have been reprimanded by his parents for not working harder in school.

No. 11. Age, 14. Father and mother separated and the boy lived with an uncle. Found hanging from

a beam in a cow barn, his arms over his head, with the fingers entwined in the rope, a pail at his feet, and the feet touching the floor. Dressed in a blue sweater, trousers and shoes. Said to have been unhappy because he was not permitted to visit his mother.

No. 12. Age, 12. The boy had disappeared and was found hanging from a rafter in the attic of his home, fully clad. There were two beds in his room and he had pushed one against the entrance door so that no one could come in. The stairway to the attic led from this room. The family could assign no reason.

No. 13. Age, 14. This boy, said by his family to have been perfectly normal in his actions, was found hanging from the rafters in the attic of his home, dressed in girl's underclothing. Green colored cotton slacks, a white shirt and a pair of brown and white sport shoes were found in a box in an adjoining room.

No. 14. Age, 15. When last seen he was seen standing on a springboard by the pond beside which his family were camping, dressed in bathing trunks. He did not come in to supper and the next morning was found hanging to a tree, naked, the bathing trunks beneath the body. His feet were on the ground with the knees bent. His family had noticed no change in him.

No. 15. Age, 16. Said to have been a normal boy. Had been criticized at his work and this was discussed at the supper table. After supper he left the table and was later found hanging in the cellar, fully clad.

No. 16. Age, 16. Considered by the teacher in charge of guidance at his school an average student in the sciences, social adjustment, industry, co-operation, intuition, leadership, and emotional development. Found hanging by a clothesline in the cellar of his home, in a kneeling position. He had had an appendectomy two weeks before. Had thought the boys were laughing at him at school. His sister's engagement had been announced on the same day as the suicide.

No. 17. Age, 11. Said to have been of average intelligence and no signs of depression. Found by his mother hanging to a water-pipe in the cellar of his home, at 8.00 P. M., fully clad. No contact between feet and the floor.

No. 18. Age, 13. After supper went out for a ride on his bicycle and did not return. Was found hanging to a tree in the woods, naked, both feet touching the ground, knees flexed. The left half of the pubic

#2. (No. 7 in series.) Naked except for shoes and stockings. Belt around sapling.

#3. (No. 4 in series.) Clothing taken off. Female brassiere, skirt, panties, shoes and stockings. Feet off the ground; one arm over limb of tree.

hair apparently had recently been trimmed with scissors.

No. 19. Age, 11. Disappeared and was later found hanging in an empty storehouse. Family doctor states that he was no different from other boys.

No. 20. Age, 15. Said to have been a healthy boy, brilliant and active. Found hanging by his necktie to a tree outside his room, his feet touching the ground, naked except for a suspensory. On his desk was found an imitation death certificate signed with the forged name of a prominent man.

No. 21. Age, 14. Said to have been a normal boy. Was playing outside the house with his brother, went indoors ahead of the brother, and when the brother tried to enter, the door was locked. The brother went through a parlor window and saw the boy, practically sitting on the floor, hanging in the doorway between the parlor and the kitchen, with a towel around his neck, tied to a rope that was thrown over the door to be tied to the doorknob on the opposite side, his left hand tied to his belt in the back.

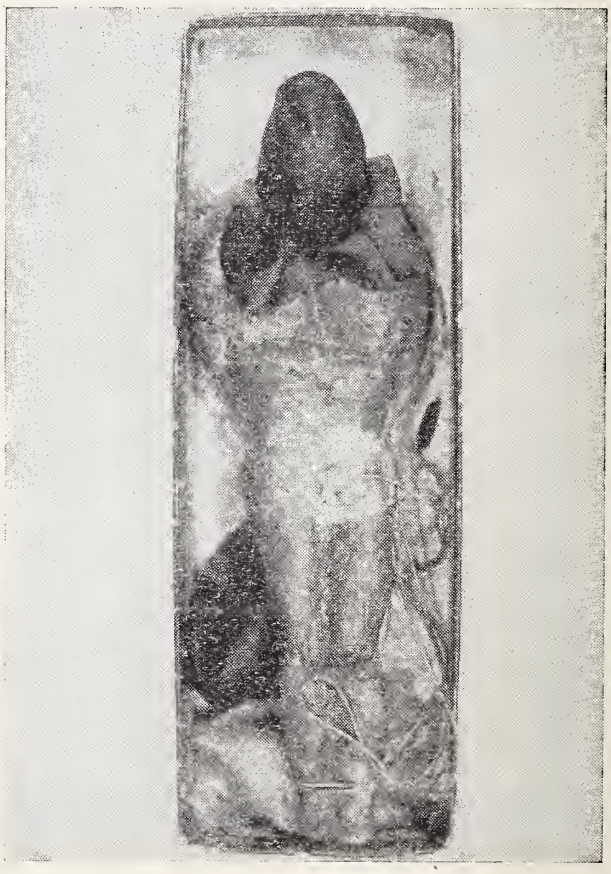
No. 22. Age, 19. The boy's family had been at their summer home and were all packed up, ready to leave. They missed the boy and found him hanging from a stringer in the hayloft of the barn by an army belt. The belt had been put around his neck and drawn up tight. Then a rope had been tied to the end of the belt and the rope went around a rafter and had been pulled up twice. The boy's feet were swinging free, a foot above the hay. No reason known to his family.

#4. (No. 25 in series.) Clothing taken off. Female clothing substituted. Much tying up.

No. 23. Age, 16. Home on leave from the Merchant Marine. His family went out to ride and, upon their return, found him hanging in the garage. Left a long letter starting out, "This is the best way out. If I do not do it now, I know I will have to in the future. I have been thinking of doing this for a long time." The general tone of the letter was discouraged. Spoke of shooting himself, but resorted to hanging. His parents knew of no reason for the act and had seen no change in him.

No. 24. Age, 16. Worked in a hotel with his father. Father and mother were separated. The boy objected to being with his father and working so hard. He had little social life, but showed no depression. Hung himself in his father's hotel.

No. 25. Age, 14. A member of a group of boys who had a small clubhouse built of old boards. Several of the boys said they did not like him very well as he was rough in the club, that he was usually quiet but got "mad" easily. However, at least ten boys who knew him were questioned by the police and they, and a boy who had slept in the clubhouse with



#5. (Not in series.) A 17-year-old boy, playing with associates in the morning; driven home to lunch at one o'clock. Friends called for him at 1:55. Did not come out when they blew the horn. Was found hanging in the cellar, a hood made from a child's raincoat over his head, a noose around that; the hands and feet tied together. Among his effects was found an effigy, in a box possibly representing a coffin, which was an exact replica of the way he was found.

him two or three times, noted nothing "queer" about him. His school reports were good, he belonged to the Boys' Club and the Boy Scouts, and the boys and girls questioned said he had never made improper proposals. Found dead, hanging by the neck from a tree, an overturned 5 gallon tin pail under him. Dressed in female clothing—skirt, waist, high-heeled shoes, a bandanna about his head. Bathing trunks under the female clothing. His own trousers, shoes and bicycle were nearby. Legs tied together at the ankles, below the knees and above the knees. Hands tucked in skirt belt behind the body, all knots. Ankles tied in a length of gingham cloth. Silk stockings tied just below the knees and a few inches above the knees. At the mid-thigh a piece of gingham cloth held the thighs. A piece of cord tied about the upper right thigh. All knots in front. Numerous pieces of mirror glass below the body in a second girl's skirt. A third (knitted) skirt had been used to stuff the skirt to simulate female breasts. A cord used to encircle the breasts to accentuate them.

Discussion

It is obvious that there are serious limitations to any attempt to explore the inner mental life of these young persons. Although the details vary from case to case, yet there appears to be a common pattern to the natural history. They are predominantly early adolescent males. Hanging is quite characteristic. The act occurs abruptly, in the midst of what usually seems to be a well adjusted life. The means are sometimes casual, sometimes extraordinary. There is usually some change of clothing, frequently partial use of female clothes, and frequently tying up of the hands and feet. No attempt will be made to explain the phenomenon. It is to be hoped that further study will throw new light on these cases.

I am deeply grateful to the medical examiners, and especially to Dr. Richard Ford, Professor of Forensic Medicine, Harvard University, for their fine cooperation in furnishing data concerning these cases.

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CENTENNIAL NEWS

Notes from Minutes of Preliminary Meeting at Brunswick, April 28, 1853

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

"A committee, consisting of Drs. Briggs, I. Lincoln and Boutelle, were chosen to nominate three delegates to attend the Sixth Annual Meeting of the American Medical Association, to be held on the first Tuesday in May, in New York City; and the following gentlemen were chosen, with the power of appointing substitutes: Drs. T. G. Stockbridge, of Bath, John Benson, of Waterville, and Alonzo Garcelon, of Lewiston."

The Journal of the Maine Medical Association

Thomas A. Foster, M. D., Portland, Editor

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A NEW YEAR

With a new administration to offer new policies and to present to the American Public a group of good men in high places, we, as a profession, feel somewhat more secure in our American way of practicing medicine.

The future of medicine, however, is beset with many problems. The Magnusson report has been prepared and presented for consideration. The American Medical Association has reserved any extensive comment on the report until a careful analysis and review has been completed by appointed authorities. It may be assumed, nevertheless, that some proposals in the report will stimulate controversy. Just what the end results of the study will be and what effect they will have on our present methods remain as unknown quantities.

Recent statements from the offices of the Surgeons General of the Army and Navy indicate that fairly large numbers of doctors will be needed to fill the requirements of the Armed Forces. The future life of the Doctor-Draft Law will come before Congress for decision. And here again the profession has no positive knowledge of the end results of the debate.

The distribution of hospital facilities and medical care throughout rural areas remains an active issue in most of our States; surely it poses a challenge in the State of Maine.

The extension of public health services into communities which are not served adequately and the development of plans for the care of chronic invalids call for study and support from the profession.

The above mentioned conditions are only a few of the things which bear an influence on our future. It would be folly for the profession to neglect these challenges.

We must face our problems squarely and work hard to help in the solution of them in an American way.

REPORT OF THE PRESIDENT'S COMMISSION ON THE HEALTH NEEDS OF THE NATION

The keynote, the foundation, and the motivating argument for the recommendations made to the President and the Congress in Vol. 1 of the Report of the President's Commission on the Health Needs of the Nation, is found in this credo of that Commission:

"Access to the means for the attainment and preservation of health is a basic human right."

In order to have accurate statistics and studies of the health needs of the people the Commission recommends that:

"The Federal government develop adequate methods to measure morbidity in the general population, and apply these methods on a periodic basis to assure better, current information on the health status of our people."

The Commission is convinced that there is a shortage in almost every category of trained health personnel from physicians down and sees no future improvement of that situation unless:

"Federal funds be made available:

a. To schools of medicine, dentistry, nursing, and public health for modernizing and expanding their physical facilities."

"That Federal funds be made available for scholarships to students who could not otherwise afford to attend school for education and training in the health professions."

As to facilities, chiefly hospitals, the Commission recommends that:

"1. We plan and develop, as a nation, an adequate system of hospitals and related health facilities to serve all of our people in both urban and rural areas. In developing this program, the principle of Federal grants-in-aid should be maintained for major construction and modernization, and local responsibility for the operation of these hospitals continued.

2. The Federal hospital Survey and Construction program (Hill-Burton) be extended and expanded."

including

"Greatly accelerated planning and construction of health centers, mental disease, chronic disease, tuberculosis, rehabilitation, and research facilities."

The Commission is particularly emphatic in its criticism of what it considers a lack of organization of the medical profession so that it may be economically used for supplying the medical needs. Outstanding in its recommendations is group practice.

Concerning the amounts spent on medical research, the Commission caustically remarks:

"Last year's total expenditure of $180 million amounted to only three-tenths of one percent of the Nation's defense budget; and was less than the amount spent on monuments and tombstones."

and recommends that:

"1. Both private and governmental support for medical research be expanded as rapidly as the money can be effectively used, and be allocated to all agencies with promise in this field, not just medical institutions."

The Commission recommends that:

"1. The principle of prepaid health services be accepted as the most feasible method of financing the costs of medical care.

2. The present prepayment plans be expanded to provide as much health service to as many people as they can.

3. A coöperative Federal-State program be established to assist in the financing of personal health services.

4. Funds collected through the OASI mechanism be utilized to purchase personal health service benefits on a prepayment basis for beneficiaries of that insurance program.

5. Federal grants-in-aid be made from general tax revenues for the purpose of assisting the States in making personal health services available to public assistance recipients."

The Commission also recommends that:

"1. The Congress establish a department of health and security."

PROGRESS REPORT OF THE COMMITTEE FOR THE CENTENNIAL CELEBRATION

Dr. Alton S. Pope of the Massachusetts Department of Public Health and Dr. Dana W. Atchley, Professor of Medicine at Columbia University College of Physicians and Surgeons, have joined our list of guest speakers. Dr. Pope is a nationally recognized authority on tuberculosis. Dr. Atchley was author of a delightful biographical sketch of an old time General Practitioner in Bath. This sketch was published in the *New Yorker* a couple of years ago. The committee sincerely believes that the Maine Medical Association should be proud of the almost universal acceptance of our letter of invitation by so many eminent men. The earnest desire of these men to take part in our program is exemplified by Rear Admiral Dearing's decision to travel all the way from the West Coast to attend the Centennial Celebration.

The historical and scientific exhibits will occupy a good deal of space and (we trust) interest. Included will be illustrations portraying advances in Public Health measures, Public Health Nursing, Electroencephalography, Cardiac Catherization, Anesthesia, Pathological Aids in Cancer Diagnosis and many others. Dr. Carl E. Richards is Chairman of the Scientific Exhibit program and has a sizable committee to help put on a good show. Dr. Charles W. Steele and the Civil Defense authorities have shown such an unusually enthusiastic spirit of coöperation that limitation of space alone will prevent their detonation of a miniature A Bomb. Their original intention to set off an H Bomb was promptly cancelled for fear of their usurping all attention from the other scientific exhibits. Dr. Thomas A. Foster as Chairman of the Historical Committee, with the able help of Dr. C. Harold Jameson, Dr. Richard C. Wadsworth and others, promises to unearth many items of personal and professional interest.

C. Lawrence Holt, M. D.,
Chairman, Centennial Committee.

A YEAR'S EXPERIENCE OF THE EMERGENCY MEDICAL SERVICE

In July, 1951, the Portland Medical Club decided to supply the Portland area with Emergency Medical care. This service is supposed to provide medical care in case of emergency to patients who have no doctor. It is not supposed to provide care to patients who have a family doctor. It is assumed and hoped that doctors would provide substitutes for their own patients when they are not available for Emergency calls.

The system is set up in such a way that the 62 youngest doctors in the community bear the burden. All specialists are included — even Pathologists and Roentgenologists. Two doctors are assigned one day each month. They are called alternately so that, theoretically each doctor assigned to one day each month would have answered the same number of calls as his partner at the end of the year. However, the number of calls for any one day of the month might differ, so that the doctors assigned to the first of the month might share 30 calls a year while those on the fifteenth might have shared 40.

Whenever a doctor is called by the service he is responsible to the extent of providing definitive care for the patient by one of three methods. First —he might be able to provide a solution to the problem after phoning the patient by suggesting medication or answering questions. Second—after talking with the patient, he might decide the care of a specialist is needed, then calling one of his colleagues and see to it that the specialist sees the patient at once. Or it might be ascertained that the patient needs hospital care. In that case he must arrange transportation and check to see that care is being provided at the hospital. Thirdly, if he is unable to provide care to the satisfaction of the patient by the above means, he must go himself.

For the most part the doctors have been very coöperative. More than 90% of the doctors have answered their calls and done their share. The most important aspect of the system from the doctor's point of view is that no one is excluded, that each is sharing an equal burden. In that way no one doctor has any valid excuse for not doing his part.

The principle stumbling block has been the complaint that certain doctors refuse to make emergency calls on their own patients. They refer these calls to the Emergency Service. The doctor on call for the E.M.S. rightfully asks "why should I make a call for him?". He shouldn't and under our system is not obliged to. He either calls the doctor or his wife and tells them the circumstances, explaining that such calls are not the responsibility of the E.M.S., that the doctor who refuses to make the call must provide his own substitute. This is then explained to the patient.

In the Greater Portland area with a population of about 100,000, we have had about 600 calls, everyone has been answered. The maximum number was 101, and least 39. The most calls in one day was nine. The average number made by any one doctor a month was two, but have been as many as eight when a partner did not respond or was out of town. The Portland Medical Club paid $161.08 for this service.

The Portland Medical Club has provided an Emergency Bag and pay for a telephone line and ad in the telephone book. The Telephone Answering Service have provided the telephone operator's service free of charge.

CENTENNIAL SESSION — PORTLAND — JUNE 21-24, 1953

Have you marked these dates on your calendar?

See Report of Centennial Committee, Page 25.

Normal peristaltic action results from activity of the muscle layers as they are gently distended by bulk within the intestine; mucosal irritants cause overactivity of the muscle layers resulting in hyperperistalsis or spasm.

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COUNTY SOCIETY NOTES

Androscoggin

Dr. Daniel A. Rock of Lewiston, has been appointed senior surgeon and assistant chief of surgery at the Veterans Administration Hospital, Togus, Maine. Dr. Rock, who has served as assistant surgeon and chief of the Tumor Clinic at the Central Maine General Hospital, is a graduate of New York University College of Medicine and is certified by the American Board of Surgery.

Cumberland

Dr. DeForest Weeks was elected President of the Portland Medical Club at the 76th annual dinner of the Club, held at the Lafayette Hotel, Portland, December 2, 1952.

Dr. Carl E. Dunham was elected Vice President and Dr. Alice A. S. Whittier, Secretary-Treasurer.

Dr. Philip P. Thompson, Jr., of the Emergency Medical Service reported that in the past eleven months the club serviced about 600 emergency telephone calls. The number varied from a low of 39 to a high of 101 in a single month. Doctors made as many as nine calls a day.

Dr. Joseph E. Porter, Maine General Hospital pathologist, spoke on Medico-Legal Problems and discussed his experiences as a medical examiner for the past eight years.

Dr. Benjamin Zolov of Portland, has been elected to the executive committee of the New England Regional Board of the Anti-Defamation League of B'nai B'rith.

Franklin

A meeting of the Franklin County Medical Society was held in Farmington, December 29, 1952. The following officers were elected for 1953:

President, Dr. Harry Brinkman, Farmington.

Vice President, Dr. John W. Friend, Farmington.

Secretary-Treasurer, Dr. Paul E. Floyd, Farmington.

Delegate to the Maine Medical Association, Dr. Floyd. Alternate, Dr. Philip B. Chase, Farmington.

Censors: Drs. Currier C. Weymouth, Maynard B. Colley and George L. Pratt.

PAUL E. FLOYD, M. D.,
Secretary.

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, December 10, 1952. There were twelve members and five guests present.

The following officers were elected for 1953:

President, Dr. Herbert T. Wilbur, Jr., Southwest Harbor.

Vice President, Dr. Mason Trowbridge, Jr., Ellsworth.

Secretary-Treasurer, Dr. Arthur M. Joost, Jr., Bucksport.

Censor, Dr. Dwight Cameron, Northeast Harbor.

Dr. Linus J. Stitham of Dover-Foxcroft, a member of the Maine Medical Association's Health Insurance committee, Mr. Walter Black and Mr. R. F. Nellson of the Associated Hospital Service of Maine, spoke on the Blue Shield Plan. They explained some of the administrative details and attempted to answer criticisms of the plan voiced by members of the society.

ARTHUR M. JOOST, JR., M. D.,
Secretary.

Kennebec

A regular meeting of the Kennebec County Medical Association was held at the Veterans Administration Center, Togus, November 20, 1952. Dinner was served to forty-eight members and guests at 7.00 P. M.

President Francis H. Sleeper presided at the business session. Dr. Lee W. Richards, Jr., Chairman of the Committee on Resolutions on the death of Dr. Harry Elkins, read the resolutions drawn up by the committee, which appear in the Necrology section of this issue of the JOURNAL.

Dr. Brinton T. Darlington of Augusta, was elected to membership.

Dr. Sleeper appointed the following members as a Nominating Committee to present a list of suggested officers for the coming year; Dr. John O. Piper of Waterville, Chairman, Dr. Roland L. McKay of Augusta and Dr. Allan C. Hurd of Gardiner.

Dr. Joseph E. Murray of Boston, guest speaker, was introduced by Dr. Zeltzerman. Dr. Murray's subject was Head and Neck Cancer—Diagnosis, Treatment and Reconstruction. His talk, which was most interesting, was illustrated with informative pictures of lesions and surgical procedures and results.

A. H. MORRELL, M. D.,
Secretary.

Washington

Dr. James C. Bates of Eastport, was elected to the Eastport City Council, and Dr. Charles W. Capron to the School Committee, December 8, 1952.

New Members

Aroostook

Dr. Philip Pines, Limestone, Maine.

Kennebec

Dr. Brinton T. Darlington, Augusta, Maine.
Dr. Allen I. Saunders, State Hospital, Augusta, Maine.

Penobscot

Dr. James C. DeWitt, 282 So. Main Street, Brewer, Maine.
Dr. Andrew Fergus, 111 State Street, Bangor, Maine.
Dr. Robert J. Hughes, 54 Penobscot Street, Bangor, Maine.
Dr. David Sapira, State Hospital, Bangor, Maine.
Dr. George W. Wood, III, 116 State Street, Bangor, Maine.

NECROLOGY

Harry Elkins, M. D.

1887 - 1952

Dr. Harry Elkins was born June 11, 1887, in New York City. He graduated from Fordham School of Medicine in 1911 and served his internship from 1911 to 1912 at the Children's Hospital, Department of Welfare, of New York City. He then joined the Staff of the Central Islip Hospital and was there from 1912 until 1918, when he entered the armed services during World War I.

His military service was spent at Camp McClellan, Alabama. Dr. Elkins' military interests were with combat troops rather than with the medical corps, and he applied very early in the war for a commission in the infantry, although he was rejected because of defective vision. He attended the Plattsburg training camp from September 8, 1916 to October 5, 1916. He finally managed to enter the service and was assigned to duty with the quartermaster corps.

He was Superintendent of the Northern Indiana Hospital for the Insane at Logansport, Indiana, from 1920 to 1921 at which time he entered the services of the Augusta State Hospital. He was on the Staff at the Augusta State Hospital from July 1, 1921, until the time of his death, October 3, 1952, serving the last ten years as Assistant Superintendent. Dr. Elkins was Acting Superintendent at the Hospital from July 1, 1946 to September 1, 1946.

For thirty-one years the walls of the Augusta State Hospital constituted his home. His family consisted of his patients and fellow workers. His friends were those concerned with the progress of the Institution. His spare hours were devoted to arduous study and research in both journal and text so that, in a most amazing and remarkable sense of the word, he not only kept abreast of the trends in all branches of modern medicine, but was able to retain his intellectual acquisition to an exceptional degree. With all this intellectual activity which more closely characterized this man's personality, he nevertheless showed great interest in sports and the out-of-doors—tennis, baseball, hunting and fishing.

Dr. Elkins was a deeply religious man. He was able to discuss many religions thoroughly and understandingly. Dr. Elkins' life and activities among us will not be forgotten by us for a long time to come.

Lastly, be it resolved that a copy of this resolution be spread on the records of the Kennebec County Medical Society; and a copy sent to the nearest relative.

DR. LEE W. RICHARDS, JR., *Chairman,*
Kennebec County Medical Society,
*Committee on Resolutions.**

* Presented at the November 20th meeting of the Kennebec County Medical Society.

NEWS AND NOTES

Maine Chapter, American College of Surgeons, Meet at Bangor

Fifty members of the Maine Chapter of the American College of Surgeons met in Bangor, December 5, 1952. A series of symposiums and papers were presented at the Eastern Maine General Hospital, followed by dinner at the Bangor House.

Robert S. Speirs, Ph. D., of the Jackson Memorial Laboratory, Bar Harbor, was guest speaker at the dinner meeting.

State of Maine
Board of Registration of Medicine

Adam P. Leighton, M. D., 192 State Street, Portland, Maine, Secretary.

List of physicians licensed to practice medicine and surgery in the State of Maine — November 13, 1952.

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Dr. Bernard Messert, 65 Woodside Lane, Arlington, Mass.

Dr. Newton George Pritchett, 4 Shepard Way, Brighton, Mass.

Dr. Harold D. Warren, 25 Chester Court, Brooklyn, N. Y.

Through Reciprocity

Dr. Theodore J. Bluechel, Stevensville, Montana.

Dr. Ercell Biggs Brors, Swan's Island, Maine.

Dr. Brinton T. Darlington, 331 Veranda Street, Portland, Maine.

Dr. Herbert J. DeShon, 74 Fenwood Road, Boston, Mass.

Dr. Philip Sprague Fogg, Jr., 52 Berwick Street, Portland, Maine.

Dr. Harris Hinckley, 130 Scamman Street, South Portland, Maine.

Dr. Alvin A. Hoffman, 115 Ormond Street, Mattapan 26, Mass.

Dr. Harold Lee, 14 Moore Street, Quincy 69, Mass.

Dr. Gaetano A. LoPresti, 5 Bramhall Place, Portland, Maine.

Dr. Frederick C. Vogell, 130 Pleasant Street, Bennington, Vt.

Dr. Russell G. Williamson, 95 Sachen Street, Middleboro, Mass.

Dr. Philip Pines, Limestone, Maine.

Examinations for Fellowship in United States Section, International College of Surgeons

Qualifying examinations for Fellowship in the United States Section of the International College of Surgeons will be held on the following dates in 1953: February 2 and 3, May 4 and 5, August 10 and 11, and November 2 and 3. The examinations will be given at the Cook County Graduate School of Medicine, and the Cook County Hospital. Applicants are requested to address communications as follows:

Harry A. Oberhelman, M. D., Secretary, Qualification and Examination Council, 1516 Lake Shore Drive, Chicago 10, Illinois.

Department of Health and Welfare Division of Maternal and Child Health (Including Services for Crippled Children) Clinic Schedule — January Through June, 1953*

* The Schedule for July through December will be published in a later issue.

ORTHOPEDIC CLINICS

Portland — Maine General Hospital, 9.00-11.00 a. m.: Jan. 12, Feb. 9, Mar. 9, Apr. 13, May 11, June 8.

Lewiston — Central Maine General Hospital, 9.00-11.00 a. m.: Jan. 16, Feb. 20, Mar. 20, Apr. 17, May 15, June 19.

Rumford — Community Hospital, 1.30-3.00 p. m.: Mar. 18, June 17.

Waterville — Thayer Hospital, 1.30-3.00 p. m.: Feb. 26, June 25.

Rockland — Knox County Hospital, 1.30-3.00 p. m.: Feb. 19, May 21.

Machias — Normal School, 1.30-3.00 p. m.: Feb. 11, Apr. 1, June 10.

Presque Isle — Northern Maine Sanatorium, 9.00-11.00 a. m. — 1.00-3.00 p. m.: Jan. 13, Mar. 11, May 12.

Houlton — Aroostook General Hospital, 9.00-11.00 a. m.: Mar. 10.

Fort Kent — Peoples Benevolent Hospital, 10.00 a. m.-1.00 p. m.: Jan. 14, May 13.

Bangor — Eastern Maine General Hospital, 1.30-3.00 p. m.: Jan. 22, Mar. 26, May 28.

Augusta — Augusta General Hospital, 1.00-3.00 p. m.: Apr. 23.

Cardiac Clinics

Portland — Maine General Hospital, 9.00-12.00 a. m.: Will be held every Friday with the exception of holidays.

Bangor — Eastern Maine General Hospital, 9.00-11.00 a. m.: Jan. 23, Feb. 27, Mar. 27, Apr. 24, May 29, June 26.

Hard-of-Hearing Clinics

Waterville — Thayer Hospital, 1.30-3.30 p. m.: Feb. 18, June 3.

Pediatric Clinics

Bangor — Eastern Maine General Hospital, 1.30 p. m.: Jan. 23, Feb. 27, Mar. 27, Apr. 24, May 29, June 26.

Waterville — Thayer Hospital, 1.30 p. m.: Jan. 6, Feb. 3, Mar. 3, Apr. 7, May 5, June 2.

Presque Isle — Northern Maine Sanatorium, 1.30 p. m.: Jan. 21, Mar. 25, May 27.

By Appointment Only

COMING MEETINGS

Maine Medical Association Centennial Session, Eastland Hotel, Portland, Maine, June 21-24, 1953. Chairman Centennial Committee, Dr. C. Lawrence Holt, Portland. See "Progress Report of the Committee for the Centennial Celebration," which is published elsewhere in this issue of the Journal.

American Medical Association, 1953 Annual Session, New York City, June 1-5. Secretary, Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Ill.

Annual Congress on Medical Education and Licensure, Palmer House, Chicago, Feb. 9-10. Secretary, Dr. Donald G. Anderson, 535 North Dearborn St., Chicago 10, Ill.

National Conference on Rural Health, Roanoke Hotel, Roanoke, Va., Feb. 27-28. Secretary, Mrs. Arline Hibbard, 535 North Dearborn St., Chicago 10, Ill.

American Academy of Allergy, Statler Hotel, Boston, Mass., Feb. 26-28. Secretary, Dr. Ben Z. Rappaport, 55 East Washington St., Chicago, Ill.

American College of Radiology, Palmer House, Chicago, Feb. 6. Executive Secretary, Mr. William C. Stronach, 20 North Wacker Drive, Chicago 6, Ill.

U. S. Chapter, International College of Surgeons, Surgical Division Meetings: Pennsylvania and Surrounding States, Bellevue-Stratford Hotel, Philadelphia, Feb. 13-14. Chairman, Dr. Moses Behrend, 225 South 17th St., Philadelphia.

World Congress on Fertility and Sterility, the first World Congress on Fertility and Sterility will be held on May 25-31, at the Henry Hudson Hotel, New York City. It is suggested that those who plan to attend write as soon as possible to the Chairman of the Local Arrangements Committee, 1160 Fifth Avenue, New York 29, N. Y., for advance registration.

American College of Chest Physicians. The Nineteenth Annual Meeting of the American College of Chest Physicians will be held at the Hotel New Yorker, New York City, May 28-31. Physicians who wish to present papers at the meeting should submit titles and abstracts to Dr. Arthur M. Olsen, Chairman, Committee on Scientific Program, American College of Chest Physicians, Mayo Clinic, Rochester, Minnesota.

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HOSPITAL STAFF MEETINGS

Open to the Profession

CITY	HOSPITAL	DATE
Augusta	Augusta General Hospital	1st Wednesday
Bangor	Eastern Maine General	2nd Tuesday
Bath	Bath Memorial Hospital	1st Tuesday
Belfast	Waldo County	2nd Friday
Biddeford	Webber Hospital Notre Dame Hospital	2nd Thursday 2nd Monday
Boothbay Harbor	St. Andrew's Hospital	4th Tuesday
Caribou	Cary Memorial	1st Wednesday
Damariscotta	Miles Memorial	2nd Thursday
Farmington	Franklin County Memorial	2nd Monday
Greenville	Charles Dean Hospital	2nd Wednesday
Hartland	Scott Webb Memorial Hospital	1st Wednesday
Lewiston	Central Maine General St. Mary's General	2nd Thursday 2nd Monday
Portland	Maine Eye and Ear Infirmary Maine General Mercy	1st Tuesday 2nd Friday 4th Thursday
Presque Isle	Presque Isle General	1st and 3rd Tuesdays
Rockland	Knox County General	1st Monday
Rumford	Rumford Community	4th Wednesday
Sanford	Goodall Memorial	2nd Tuesday
Waterville	Sisters Thayer	2nd Tuesday Every Thursday

The above list was compiled from a questionnaire sent out by the Maine Hospital Association. Additions or corrections will be made on notification to the Secretary, Maine Hospital Association, Thayer Hospital, Waterville.

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The Journal of the Maine Medical Association

Volume Forty-Four | Portland, Maine, February, 1953 | No. 2

"QUO VADIS"*

Frederick T. Hill, M. D., Medical Director, Thayer Hospital, Waterville, Maine

It seems fitting at this time that we, who work in our Hospitals, should pause for a little and give thought to "whither we goest." These are critical times — though interesting ones — and the Future of our Voluntary Hospital System, as well as the Practice of Medicine may become vastly different from what we have been accustomed to and might hope to preserve. The lowering of moral and ethical standards in Public circles which seems not only to be generally accepted but even expected, as well as the materialistic tendency which is beginning to pervade our own profession certainly provides little reason for complacency. If we are to have a Future worthy of our calling we must strive to retain, and in many cases recapture, the Ideal of Service which has characterized the Healing Art these many years. Perhaps a little self-analysis, a review of our objectives and a frank appraisal of how well we are meeting them might be in order, if we seek to plot our Future.

The objectives, the functions of the hospital should be three: Care of the Sick and Injured; Education; and Research. The first is generally recognized by both hospitals, physicians, and the general public as the main reason for the existence of these institutions. And, despite certain criticisms often of a political nature, we've been doing a pretty good job. The past few years have seen great improvement in standards of medical and hospital care with resulting decreased mortality and lessened morbidity. Advances in medical techniques, expansion of hospital facilities, and development of insurance plans have given us the highest standards of medical and hospital care in the World.

Too few hospitals, however, have given serious thought to their responsibility in the field of Education. This has been left very largely to the so-called teaching hospitals with University connections. It is my sincere conviction that every well-run hospital, regardless of size or location can and should consider an Educational program as within its province, and that this should be undertaken if the institution is to fulfill its mission in the highest sense. Unfortunately there is a rather general feeling that such activities are quite impossible for the average community hospital, that such programs require resources and skills available only in the larger institutions. This is a misconception which we should seek to dispel. Actually it is all a matter of proportion. There is hardly a hospital, no matter its size or location, that could not develop a program of Education which would be of greatest benefit both to itself and its community. Of course, such a program must be adapted to the resources of the hospital and the needs of its community. There need be no set pattern — nor should there be. But it should encompass as wide a field as possible.

Let me digress for a moment to say I am not referring to the undergraduate training schools for nursing — too many of which are rapidly disappearing from our midst. I can only deplore this unfortunate result

* Read at the Annual Meeting of the Maine Hospital Association, Belgrade Lakes, Me., June, 1952.

Part of this material has been used in an article "Education in the Hospital" published by "Hospitals."

of the well-intentioned influence of certain groups who, in a laudable desire to raise standards, have all but eliminated bed-side nursing in many areas, and whose efforts would seem to make inevitable in the near Future the acceptance of two standards of nursing education and service.

The importance of Continuation Education for the professional groups in the hospital needs little elaboration. The value of organized teaching program for the Medical Staff is universally recognized, as something necessary, if the best of professional care is to be assured. Regular staff meetings, clinico-pathological conferences, journal clubs and the use of professional motion picture films all furnish excellent material available to any hospital. Obviously there is need for a library but that need not be too elaborate. A few standard textbooks for reference and the contemporary periodicals of the fields represented on the Staff may prove quite satisfactory for a start and is bound to grow eventually as its value becomes apparent.

Similar programs for the Nursing Staff, the Laboratory and X-ray Technicians and the Record Librarians could prove of great value, both in keeping them abreast of recent developments in their respective fields and in cementing their interests in their work. This also is often a means of attracting desirable people to these departments. Such programs could be both formal and informal.

Refresher courses are very valuable, but they come only at long intervals and usually can be attended by only a few of those who would be benefited thereby. These should not be depended upon for the teaching that rightly belongs in the hospital.

An orientation program designed to emphasize the complexity of the hospital structure and the interrelations of each department and which would include all personnel cannot help but prove of great value. When the maintenance department realizes that the surgeon cannot do his work in the operating room if the lighting plant or the boilers are not functioning the engineer is more apt to take pride in what he has to do in the hospital. And the same holds true for the business office, the laundry, the dietary, and the housekeeping departments. Dignifying these jobs by showing just what part they all play in patient care inevitably makes for more interest and coöperation, and a more efficient organization.

In addition there should be a teaching program for our patients in matters of health, a positive program, Preventive Medicine, if you will, such as might enable them to avoid a repetition of their illnesses or of the contracting of added ones. Should not the hospital be the ideal place to instruct the diabetic how to live under the handicap of degenerated Islands of Langerhan? Or the hypertensive told how to get along with his blood pressure; the traumatic case how to manage with some irreversible handicap? Indeed, we have found the hospital the ideal place for rehabilitation of the deafened child.

Of course a large part of any such program for patients must be individualized and often will be at the hands of the attending physician but if done in the hospital, utilizing the time required by the particular illness, much can be accomplished. And often the hospital must provide the stimulation for such a program. This has the decided advantage for the hospital in that the patients realize that the institution has a real interest in their future welfare.

Such a program should extend beyond the confines of the hospital. If we are to truly live up to the concept of the hospital as the Health Center of the Community we must assume the responsibility for Education in Health for the Community. We must be more than a repair shop, a service station, or a last stop before the morgue. We should be in a position to offer the public the knowledge and help which should enable them to live in Health, to recognize deviation from the normal early, and to know what to do about these deviations. Such a program may well keep our Blue Cross plans in operation at a cost within reach of the average citizen. It might prove to be the salvation, in days to come, of our Voluntary Hospital system, not only through increased interest and support but because, in a large measure, it is the neglected case, long unrecognized, where indicated treatment has been delayed, that puts the biggest strain on the resources of the hospital.

Surely any hospital could offer such a program to its community. Again there need be no set pattern. Obviously it must be modified according to the facilities and skills available and the needs to be met. The main idea is to offer Health information, letting the people know what can be done by way of prevention. One has only to look at the outstanding work in Education carried on by the American Cancer Society and by other organizations such as the Heart Association or the Arthritic Foundation. What could be more fitting than that these and other similar activities be tied into and centered in our hospitals.

The third function, Research, may require more explanation. Research is a term often loosely used, and like Education is too often thought to be only possible in the large University-type institution. Actually Medical Research simply requires one physician and one patient. Webster defines research as "Studious inquiry, usually critical and exhaustive investigation or experimentation, having for its aim the revision of accepted conclusions in the light of newly discovered facts." This may seem a bit overwhelming but, if we consider our field generally as Clinical Research, we may limit our definition to the first two words, "studious inquiry." Should not intelligent physicians, such as constitute our staffs, make "studi-

ous inquiry"? These need not be on tremendous problems nor those requiring full-time participation. There are any number of simple problems in the practice of medicine for which the final answers have not, as yet, been found.

The main idea is to stimulate the inquiring mind which cannot help but make the better physician. Without some such activity there is apt to come a sense of complacency which is bound to lead to mental atrophy. But if just one staff member has the inquiring mind and puts it to work, there is bound to be an increased tempo of activity through the Staff. And usually others become infected with resulting stimulation to the entire hospital. Doctor Joseph C. Doane has said that a hospital without any form of research becomes a sterile institution. While we seek sterile conditions in the operating-rooms we cannot make progress with sterility in the Staff. Whether the results of these researches actually prove of value is relatively unimportant provided mental activity has been stimulated.

In these critical times in which we are living, we all wonder what the Future portends. Naturally we in Medicine and in Hospitals look with some apprehension at the Days to Come. Will we see the demise of our Voluntary Hospital System and the Socialization of Medicine under a Governmental control? Frankly I think the answer is very largely up to us. It depends upon how well we do our job, how well we meet our responsibilities. The Future may well be in our own hands.

We hear much today about the importance of Public Relations. To my mind Good Public Relations are largely Good Personal Relations. Helpful as are the Press and Radio, the most laudatory copy in the World accomplishes little if forced to compete with poor personal relations. The highest type of professional service may fail of its goal unless provided in an atmosphere of sympathy and undertaking.

Providing the best possible service for our patients, with an evinced interest in their future welfare, utilizing our skills and facilities for the education of ourselves, our personnel, our patients, and the Public could not but give us the best of Public Relations and make many of our problems easier of solution.

I feel that we have overlooked the great interest people generally have in our hospitals. There is great appeal in Service to the Sick. Secretly many a man wishes he could have been a doctor and many a woman envies the nurse with her skills and opportunities to serve. Why not capitalize upon this appeal by developing volunteer service in the hospital, enrolling these people on our Health Team, together with the doctor, the nurse, and the rest of the hospital family?

Similarly I think that as a hospital association we have ignored a glorious opportunity to strengthen our cause. If we are to really strive to live up to our objectives we should seek to bring into our membership, all persons actively engaged in hospital work. Think what such an organization could accomplish, not only administrators and their associates, but physicians, trustees, and the various auxiliary groups.

So in conclusion I would say that "whither we goest" depends upon ourselves, upon how well we meet our responsibilities. If we recognize the three functions of the hospital; Care of the Sick and Injured, Education in its broadest aspects; and Research; if we provide the best possible patient-care in a sympathetic and understanding atmosphere; and if we utilize the great potential for good that there is in lay participation in our programs, we need have little fear for the Future. To do all this will demand initiative and imagination. We should not be bound by precedent or pattern. We should utilize what facilities we have to the best advantage. "There are no immutable laws," said Clerambault, "laws like beings, live, change, and die. It is the duty of the spirit, not to accept these as the stoics taught us, but rather to modify and shape them to our needs. Laws are the outside form of the soul, and if it grows they must grow also."

Clerambault, Roland: Henry Holt & Co., New York, 1921.

Does Your Calendar Have These Notations?

Sunday, June 21—Centennial Session, Portland

Monday, June 22—Centennial Session, Portland

Tuesday, June 23—Centennial Session, Portland

Wednesday, June 24—Centennial Session, Portland

APPENDICITIS

A Clinical and Pathological Study

John F. Reynolds, M. D.,* and Irving I. Goodof, M. D.**

Realizing the problems incident to a diagnosis of appendicitis, the authors have felt that it would be of value to review a series of cases of this disease seen in our hospital, in an attempt to evaluate some of the clinical and pathological findings. It was hoped that we might be able to point out that a relatively high percentage of accuracy is possible in this diagnosis, particularly in those cases where an acute or gangrenous appendix exists at the time of the patient's admission to the hospital.

Our study consists of one hundred and forty-one cases admitted to the Thayer Hospital between January 1, 1950, and August 1, 1952, with a primary clinical diagnosis of appendicitis. The clinical and laboratory findings as well as clinical and pathologic diagnoses have been reviewed and tabulated. The purpose is to evaluate the accuracy of diagnosis of a group of twelve surgeons and incidentally to present clinical data which has proven of interest to us. Thirty-eight of the cases represent the personal experience of one of the authors (JFR), during the stated period of time.

Results

A study of age incidence in this series reveals that the average age of these patients was 21.9 years with a range from 2 to 84 years. Seventy-nine of the cases were seen in females, including the youngest and oldest, and sixty-two of the patients were males. The males averaged 24.7 years and the females averaged 20.2 years.

It was of interest in the cases of acute gangrenous appendicitis and acute and subacute catarrhal appendicitis to correlate the duration of symptoms with the findings at operation, particularly in the cases that showed peritonitis at the time of operation. Of the eighty-four cases which fall into this pathological group, forty-four had symptoms of more than 24 hours' duration, and two showed perforation at operation. Forty cases had symptoms of less than 24 hours' duration at the time of operation and three of these cases showed perforation. This finding, even in a statistically insignificant number of cases, refutes the impression gained from the literature that peritonitis does not occur when symptoms of appendicitis have existed for less than 24 hours.

In consideration of some of the laboratory findings, arbitrary normals which we feel are safely high, were selected which included a 10,000 total white cell count, 70% of polymorphonuclear leukocytes, 10% stab forms and 40% lymphocytes. There were a total of 44 cases of acute gangrenous appendicitis, which we shall henceforth call Group I. Two of these patients had no record of laboratory work leaving a total of forty-two for the purposes of this analysis. Forty or 95% had total white counts over the normal limits ranging to the highest of 36,000. The same percentage, interestingly enough, had higher than normal neutrophile counts and the highest recorded was 88%. Stab counts were available in only thirty-five of the laboratory reports and were found to be above normal in fourteen or 40%. In the forty cases which comprise Group II, those of acute catarrhal and subacute catarrhal disease, no laboratory record was available in two of the cases. Nineteen of these patients or 50% had total counts above our normals. Twenty-three or 60% showed elevation of the neutrophile count. The stab count was reported in twenty-eight of these cases and was found above normal in four or 14.3%, Three cases of acute appendicitis as confirmed by pathologic study had lymphocyte counts above the normal 40%. Group III cases in this series consisted of those appendices where fibrosis of the appendix was the only pathologic finding and comprised a total of twenty cases. Only six or 30% had total counts above normal, one patient had a neutrophil count above normal, and in the eleven cases in which stab counts were recorded there were none above normal. Two cases in this category showed lymphocytes in excess of 40%. There were thirty-four cases in Group IV which comprised those showing lymphoid hyperplasia of the appendix. Thirteen of this group showed total counts above normal and the same thirteen or 38.1% showed elevation of neutrophiles. Eleven records did not report stab counts and in only two instances was this count elevated in this group, a percentage of 8.7%. In only one case in this group was the lymphrocyte count found to be above normal and that was a case of infectious mononucleosis in which accurate diagnosis was not made preoperatively.

Four of the pathological classifications have been given in the preceding discussion and the fifth which was encountered was one instance of carcinoid of the appendix. This incidence is similar to others reported in much larger series. There were three cases of oxyuris vermicularis infestation in this series which are included in the thirty-four cases in Group IV.

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Also included in the same group are the fourteen cases diagnosed at operation as mesenteric adenitis and the case of infectious mononucleosis mentioned above.

Some of the operative and postoperative complications deserve some consideration. The appendix was found to lie in a retrocecal position in thirteen cases, an incidence of slightly less than 10%. Two cases of malrotation of the intestine were seen. Seven patients experienced postoperative complications, an incidence of less than 5.0%. The incidence of superficial wound sepsis was also very low being in the neighborhood of 3.0%, there having been four instances. Of the remaining three cases, one developed a pulmonary infarct four days postoperatively and was treated with anticoagulants. A patient with peritonitis at the time of appendectomy required three separate subsequent operative procedures to eliminate foci of infection. One patient developed acute diffuse peritonitis nine days following removal of an acute appendix without perforation and four days after his discharge from the hospital. It was suggested that the blowout of the cecum was due to the use of an excessive amount of phenol applied to the stump with an applicator, and that some was involuntarily dropped on another portion of the cecum. The technique of application of phenol to the stump has subsequently undergone scrutiny with correction. None of the complications encountered in this series of cases resulted in fatality.

The length of hospitalization of the series of cases averaged six days. One case was hospitalized only three days and the longest period of stay in the hospital was eighteen days.

The authors have carefully scrutinized the records of these one hundred and forty-one cases with attention to all details and were gratified to find that the admission diagnosis was substantiated in one hundred and twenty-one. This constitutes a percentage of 85.1 and includes all of the five pathological classifications enumerated. When one considers the patients in Group I and Group II, the admission diagnosis was accurate in 95%.

Finally, we should like to express our appreciation to the members of the Thayer Hospital staff for the use of their case material and for the help which they have given us in the assimilation of the data presented. It is hoped that a further study utilizing a larger series of cases will be available in the future.

Summary

1. One hundred forty-one appendectomies for clinical appendicitis were performed at Thayer Hospital between January 1, 1950, and August 1, 1952.
2. Pathologic examination distributed these cases as follows:
   31% ..... Acute gangrenous appendicitis
   28% ..... Acute and subacute appendicitis
   14% ..... Fibrosis of appendix
   24% ..... Lymphoid hyperplasia of appendix
3. The leukocyte and differential counts show a close correlation with the pathologic diagnosis in this series.

THIRD STAGE OF MEDICINE

Joseph H. Giesen, M. D.*

It has been since the end of World War II that this so-called "third stage of medicine," a term coined by Dr. Rusk, has developed. By this is meant rehabilitation to prevent chronic invalidism. Much interest was stimulated during World War II in the application of physical agents which have been known for many, many years. It has been, however, only since World War II that this phase of medical treatment has taken its proper place. The tremendous increase in accidental injuries, in social economic problems, in chronic degenerative disease encountered in present practice all have given us insight into this method of the rehabilitation of the patient.

The general practitioner, if he is to take advantage of this method of treatment, obviously must know first its applicability and certainly its limitations. Most orthopedic surgeons through their basic training, are educated specifically in this medium of treatment. Doctors in the other specialties of medicine generally are not so trained. While most practitioners can handle the simple cases of rehabilitation quite satisfactorily, other patients require not only the facilities of a center of rehabilitation but require the experience of trained personnel.

The psychic problem incident to injuries is of tremendous importance, something not always realized. Many injured patients who come into the chronic stage of convalescence require mental rehabilitation quite as much as the physical. Centers of rehabilitation having well-trained psychiatrists, or preferably neuro-psychiatrists, able to interpret these problems and able to correlate them with the physical findings have distinct advantages.

Diathermy, portable whirl-pool baths, or paraffin baths are indispensable to the management of these cases. Hot water in tub form, offers a great deal of benefit for home treatment if properly utilized. The superparaffin bath, which permits treatment of higher temperatures than does hot water, likewise offers a quite satisfactory medium of home treatment. With the latter, however, the patient must be instructed in

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its use as paraffin baths always must be used in a container of boiling water and not directly over a flame. I have seen both upper extremities severely burned following a fire incident to improper use of paraffin baths at home.

The standard hydrotherapy tanks are adaptable to extremity use while the larger size tank is suitable in smaller individuals for the treatment of the back conditions, preferably low and mid-back, rather than the high dorsal and cervical ones. Smaller individuals can, however, get satisfactory treatment from the ordinary hydrotherapy even to the cervical region. Physical therapy need not always be put off until the cast is removed. Therapeutic measures should not be deferred until contractures occur, or until such time as definite psychoneurotic symptoms are present.

It is my feeling that truthfulness to the patient, beginning at the time of his injury, more or less taking the patient into one's confidence offers much in the way of prevention of later psychic symptoms from injury. The seriousness of injuries should be stated honestly and not in any way be minimized; yet should not be made to appear more severe than it actually is. It is likewise advisable to warn people if complications are likely to arise. In severely comminuted fractures in such location that nerve damage is likely to ensue, patients must be forewarned of the likelihood of neurological complications. It is well to forewarn the patient of the presence of edema for even the most innocuous lesions of the extremities. This, I think, makes the management of such patients, in the convalescent stage, a much easier one. The average patient who has ordinary "horse sense" will be able to understand the physician provided he uses ordinary every day language and if he uses simple terms rather than complicated ones, and will be appreciative of frankness upon the part of the physician.

It is well to keep in mind that exercise, particularly in poliomyelitic patients, can be harmful, if improperly conducted. Patients who have severe nerve injuries must be carefully evaluated from the muscle standpoint. This is particularly true of the convalescent phase of poliomyelitis or other degenerating nerve diseases. In order that the utmost benefit be derived from physiotherapeutic measures errors in diagnosis cannot be tolerated. The underlying pathological condition in abnormalities of locomotion, may be difficult to diagnose.

The Liberty Mutual Insurance Company of Boston, Mass., about ten years ago, established one of the first rehabilitation centers in the Country. This was done obviously for economic reasons. After all the insurance companies are burdened with much of the financial responsibility for industrial injuries as practically all the larger industrial companies are covered by one or more of the insurance companies. It obviously becomes of utmost importance to them to get these patients back on their jobs as quickly as possible, to rehabilitate them both physically and mentally. Many of the larger rehabilitation centers have included, not only a program of physical medicine, but have educational programs, games, forms of occupational therapy as well as complete physical therapeutic measures.

The threat of the loss of livelihood is always foremost in the mind of the working man. Often it becomes necessary in cases of severe injury that the occupation must, by necessity, be changed. This, in itself, may be a mental hazard. All physicians particularly those of us who were engaged in the armed services in World War II know the tremendous psychic damage resulting from the loss of an arm, or a leg. Many can remember the forlorn, downcast, hopelessly despondent patient who had the ill fortune to lose both legs, or both arms, or a combination of the above. The government was quick to realize such psychic damage and for that reason the Armed Forces developed rehabilitation centers, first for the amputation cases where an amputee could see the benefits of proper surgical methods, proper rehabilitative procedures, and could realize early that it would be possible for him to take his place again in the World. Various states now have a division of Vocational Rehabilitation in which on the job training is taught to those individuals who by disease or accident have lost the ability to be self-supporting citizens.

While it is often advisable to refer patients to departments of physiotherapy, in the final analysis, it is the physician himself upon whom the patient leans and who must be responsible for therapy. Treatments, ideally, should be continuous but not too prolonged. The physician must watch for complications, both medical and psychological. It is his responsibility to see that the after-care, following surgery, is complete, for haphazard therapy rarely brings satisfactory results. The patient, of course, must understand what is to be done and the methods by which the physician expects to rehabilitate him. He must understand that, in the final analysis, his own effort is of far greater import than that of the physiotherapist.

The experienced physician realizes that it is not only the severely injured who is a candidate for rehabilitative measures. It has been my experience that patients suffering from the so-called chronic low back, chronic shoulder lesions, or chronic neck pain, may be severe psychologic, as well as, orthopedic cripples. Many of them tend to give up their jobs and their attitudes become bitter. This often may be due to failure to realize the problem inherent in these cases and that definitive therapy is indicated. Even in the best orthopedic hands treatment definitely is a major problem. A definite understanding of the basic pathology in each such condition is essential. The

mere application of diathermy to the low back for one and all conditions, hardly can be recommended, for, while it may seem beneficial for an hour or two, this can in no way be expected to cure the patient of his difficulties. Oftentimes bracing in the form of corsets or back brace in this type of patient may be necessary. The importance of proper evaluation of the conditions of the patient's feet as related to back pain should not be overlooked.

During the past two years rehabilitation of the injured has developed into a specialty which takes its place in importance with the other specialties in medicine. As a result the term "rehabilitation" has taken on a new meaning. No one who has seen many of these individuals, crippled by injury or disease, who had lost faith, not only in themselves but in the World, and who by rehabilitative measures has been restored to Society as self-supporting citizens, can doubt the veracity of this statement. And I can assure you that successful treatment of these unfortunate people can be quite as gratifying to the physician as to the patients themselves.

NEURO-SURGICAL AID TO THE GENERAL PRACTITIONER

Albert S. Crawford, M. D.*

It is with satisfaction that we view the steadily rising standards of practice by the physicians who are not limiting themselves to a specialty. Post-graduate courses and better teaching facilities in the smaller hospitals are achieving this end.

One of the youngest of surgical specialties, neurosurgery, is more and more helping to solve a number of trying problems which every physician faces. Some of these are, control of intractable pain, persisting headaches, sciatic pain, chronic persisting pains anywhere in the body which are not responding to medical and surgical treatment, epilepsy, and acute head injuries.

Severe chronic pains which have become intractable to medical and surgical therapy, are being relieved by appropriate special operations which the neurosurgeons have evolved. Some of these procedures are, peripheral nerve section, dorsal rhizotomy, section of the sensory roots of the 5th or 9th cranial nerves, cordotomy, medullary tractomy and leucotomy. These operations are special procedures that have proven over the years to satisfactorily relieve pain. Any disadvantages resulting from the operations are outweighed by the advantages that come from the relief of the pain.

In textbooks on Medical Diagnosis, the portion that is devoted to headaches is a large one. This is largely because the causes are so numerous and, the variations so great, and the treatment is so uncertain, that all known methods are enumerated for trial. This is a problem where experience is especially valuable. Success in treatment depends upon obtaining a complete history and in being able to elicit facts which help in making the correct diagnosis. One example of this is the persisting more or less constant type of headache which is likely to awaken one from sleep in the early morning hours. This type of headache is often relieved somewhat by being up and about or by a mild cathartic and bowel movement, which is characteristic of intracranial neoplasm. The headaches may or may not be accompanied by vomiting, visual disturbances, or changes of personality which the textbooks give as the characteristic picture of a brain tumor. Unfortunately there are as many which do not fit in with the usual picture. No two cases are alike. That is one reason why the diagnosis and treatment of nervous diseases is so interesting and engaging.

We strongly advocate the universal use by every physician of an ophthalmoscope and the taking of visual fields, even though this be only by confrontation. Likewise, good X-rays of the skull may show a localized calcification, erosion of the sella turcica or shift of a calcified pineal shadow which will aid in the diagnosis. The lumbar puncture can be a dangerous procedure, but if done appropriately and carefully, it can give invaluable aid in the diagnosis.

It has been pointed that a good medical history and a complete neurological examination should account for 60% of accurate diagnoses. It requires such aids as electroencephalograms, pneuemoencephalograms, ventriculograms, and bur holes, to complete the diagnosis in the difficult cases.

Until Mixter and Barr made clearer the clinical picture of the ruptured intervertebral disc syndrome, it was a universal experience that the treatment of "sciatica" was unsatisfactory. As is well known, the surgical treatment is quite effective now. There are at least 65% of cures, and only about 5 and 10% of failures. A number of factors have to be considered before one advocates surgery. And it should not be done until conservative treatment has been used for at least a month. We now are better able to sort out the disc syndrome cases from the other conditions, which in some ways are similar but call for other types of treatment.

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Another very satisfactory and often dramatic neurological procedure is the removal of a spinal cord tumor. It is probably known that of these tumors, over 60% are benign and result in cures when removed in time. One should think of a spinal cord lesion when pain has been quite constant, always in the same location, comes on during the early morning hours and is relieved by being up and around. It is commonly aggravated by coughing and sneezing and twisting. If the tumor begins with the motor portion of the nerve root, there will be an insidious but steadily progressive motor weakness. Involvement of bladder and rectal spincters and gradual loss of sex power are later developments unless the tumor is intramedullary or caudal in location. If the sensory part of the spinal nerve is involved first, pain will be the first symptom. It at first may be intermittent and inconstant, but later becomes more and more constant and severe. Varying types and degrees of sensory disturbances develop until a definite level of anesthesia is established.

There are a number of special tests which help to make the diagnosis such as, lumbar puncture with Queckenstedt maneuvers to prove the presence of a subarachnoid block; X-rays of the spine to study bone detail for signs of early bone erosion; and myelograms taken with a contrast medium, pantopaque now being commonly used. The differential diagnosis must be made between a ruptured disc syndrome, localized inflammatory lesions, and such neurological conditions as Multiple Sclerosis.

Epilepsy has for centuries been an unknown and baffling condition. The earliest known cranial operation — trepanation — was undoubtedly performed in attempts to allow the "evil spirits" to escape. Over the years the results of surgery have been quite discouraging. However, Penfield and his colleagues have given new hope in this field. The Electroencephalogram has given invaluable aid in diagnosis and choice in cases. Surgery is advocated where the epileptogenic foci can be removed without too much resultant damage to vital areas of the brain. This type of surgery is constantly adding knowledge on the Anatomy and Physiology of the nervous system.

Acute head injuries are being treated by many general practitioners. It is true that many of these do recover without care by a specialist. But in at least 25%, the course is not favorable and complications develop. It is in these cases that Neurological tests and experience can be helpful. A full knowledge of the dangers and unfavorable signs is necessary so that aid can be applied before it is too late.

Other medical conditions where Neurosurgical aid can be given are: 1. peripheral vascular diseases of the extremities where appropriate sympathectomy, if done promptly and extensively enough, can relieve pain and does postpone, and sometimes avoids, amputation; 2. cerebral hemorrhage, where it is possible to locate and sometimes successfully treat aneurisms and localized blood clots, and 3. certain localized inflammatory lesions of the central nervous system which can be surgically treated. Now as a result of the more general knowledge and better use of the antibiotics, the need for drainage or removal of chronic abscesses is much less common than a decade or more ago. But the cases that do present, are often difficult problems to diagnose or to treat.

Now that we have such an extensive armamentarium to aid in the diagnosis and treatment of neurosurgical cases, it behooves us all to give our patients the benefits of this progress and seek this aid in the care of our difficult problems. It is well known that the best results are obtained when surgical lesions can be diagnosed and accurately localized as early as possible.

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GENERAL PRINCIPLES REGARDING THE TREATMENT OF SINUSITIS

Loring W. Pratt, M. D.*

Sinusitis is one of the common ear, nose, and throat problems which is, like many diseases peculiar to the specialty of otolaryngology, a complication of less complex disease, frequently the common cold.

Normal Anatomy and Physiology

The paranasal sinuses are essentially diverticulae of the nasal cavity which continue to communicate with their parent chamber by means of small orifices called ostia. These sinuses are lined with ciliated epithelium which constantly keeps foreign matter moving out of these openings on a thin blanket of mucous secreted by the lining of the sinus. This is a normal process which is interfered with in disease, oftentimes producing the complication known as sinusitis.

Pathological State

When the ostia of the sinuses are completely obstructed, two situations immediately supervene:

1. Infection enters the sinus and, because the ostium is closed, the bacteria and pus produced by this process are not eliminated by the cilia, although ordinarily cilia function well in the presence of pus.

2. Blood circulating through the mucous membrane lining the sinus dissolves certain gaseous constitutents out of the sinus with the result that there is a reduction of pressure within the sinus. This favors the transudation of serum through the capillary walls and the accumulation of a fluid within the sinus which constitutes an ideal medium for the rapid growth of bacterial contaminants.

Etiology

What then is the origin of such infection? The origin of such disease is largely as a pyogenic complication of:

1. Acute upper respiratory infection.
2. Allergic rhinitis.
3. Combination of No. 1 and No. 2.
4. Dental Infections.

Acute infections of the upper respiratory tract and allergic rhinitis both produce swelling of the mucous membrane which frequently results in obstruction to the ostia of the sinuses. This is probably the major factor in the production of sinus infection. Allergic patients often demonstrate the tendency to become more readily infected with acute respiratory infections apparently due to disturbed physiology of the mucous membrane. This disturbance of nasal physiology may well be the dilution of tissue antibodies by the edema fluid in the membrane. This edema fluid also interferes with the exchange of nutrient substances and gaseous exchange between capillary bed and cellular elements. This may conceivably even produce hypoxia of the nasal membrane.

Similarities between acute upper respiratory infection and allergy:

	Upper Respiratory Infection	*Allergic Rhinitis*
1. Edema	Acute	Acute
2. Hyperemia	Acute	Not as common
3. Mucous production	Profuse	Profuse
4. Nasal cytology	Polys are predominant	Eosinophiles usually present
5. Nasal mucous membrane histology	Edema fluid Infiltration with polys, lymphs, and plasma cells	Edema fluid Infiltration with lymphocytes, plasma cells and eosinophiles and fibroblasts
6. Sneezing	Some during acute phase	Frequently occurs even in absence of acute phase
7. Bacteria	Abundant	Not abundant unless acute infection has supervened

Dental infections constitute more specific problems peculiar to the maxillary antrum as an abscess in the alveolar process may well rupture directly into the lumen of the sinus. Ciliary action might then take care of the infection were it not for two factors. First is the development of swelling about the antral ostium secondary to the bacterial contamination from within the sinus. Second is the continuing focus of

* From Thayer Hospital, Waterville, Maine.

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INFANTILE CORTICAL HYPEROSTOSIS

Case Report

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The Syndrome, Infantile Cortical Hyperostosis, was described by Caffey[1] in 1939. Caffey[2] and Smyth[3] suggest that this entity is not uncommon. The small number of published case reports would not suggest this. However, the report of this case is the second from this hospital within three years.[4]

Consequently this case is presented with a brief review of the clinical findings so that we may familiarize ourselves with this entity.

The onset of the disease is usually in the first few months of life. It is characterized by tender, firm swellings of the soft tissues overlying the affected bone. There is no pitting on pressure and no increased heat or redness. The roentgenographic findings consist of cortical hyperplasia under a proliferating periosteum. The skeletal changes involve the mandibles, ribs, scapulae, femurs, tibiae, and fibulas. Most usually these are accompanied by fever, anemia, lymphocystosis, and elevated erythrocyte sedimentation rate. The disease, which may last for several months, is self limited. Clinical improvements appear in three to six months but the roentgenographic changes resolve more slowly.

The etiology of these cases is still in doubt. No therapeutic regimes have altered the course of disease.

Case Report:—A three-month-old female infant was seen for her monthly examination on March 22, 1952. The mother noted that for the previous week the baby had been fussy with poor appetite and that her face seemed puffy.

Family History: Both parents are living and well. No other siblings, no chronic or familial disease were known.

Past History: Normal full term, spontaneous delivery. Birth weight was seven pounds, four and one-half ounces. The mother's health was good and the prenatal history was uneventful. Her diet consisted of an evaporated milk formula and vitamins A, C, and D.

Physical Examination: The patient was a well nourished and well developed white female. Temperature 101.4 (rectally), weight, twelve pounds, four ounces. She was markedly irritable on handling, especially when the face and jaw were touched. There was a firm, tender non-hyperemic swelling along both mandibles. The skin was otherwise clear. There was no significant cervical adenopathy. There were no other findings of note.

Laboratory: Red blood cells 3,400,000; white blood 29,700; Hemoglobin 9.2 gms. Differential: Neutrophiles 43%, Juveniles 7%, Lymphocytes 43%; Eosinophiles 3%, Basophiles 3%, Monocytes 3%. Throat culture, no significant growth of pathogens.

Urinalysis: Clear amber, 1.020, no albumin or sugar, microscopic negative.

Patch Test: Negative.

Serology: Negative.

Blood Culture: Negative.

Progress: She maintained a daily elevation of temperature, fluctuating between 99° and 102°. This elevation of temperature persisted for two months. In the first month she had gained one pound in weight but in the following two months her weight remained stationary. At this point she began to gain weight slowly and at nine months of age, six months after the onset of the disease, she weighed fifteen pounds, nine ounces. Throughout this period she was a considerable feeding problem because of the difficulty in handling.

Six weeks after the onset, there appeared to be some involvement of the left shoulder. However, the swelling of the face was less noticeable. At this time her temperature began to fall within normal limits. There followed a brief interlude when the baby was less fussy. Her peripheral blood findings remained essentially unchanged.

Three months after the onset, the face and left shoulder were much less swollen. However there appeared to be a symmetrical swelling of her thoracic cage. She began to have a low grade elevation of temperature again. This episode was very brief, for in three weeks all soft tissue swelling was rapidly diminishing. Her laboratory findings showed improvement with a drop in her white blood cells and a rise in her hemoglobin. At the end of six months there were no clinical manifestations of the disease.

Roentgenographic Reports

March 22, 1952, Jaws, Arms, Legs: Examination of the jaws, arms, legs and pelvis. There is a layer of cortical new bone visible along the inferior boundry of the body of the mandible on both sides, extending around the symphysis anteriorly. This can be clearly differentiated as a laminated subperiosteal strip outside the cortex. There is no involvement of the bones of the arms, pelvis or lower extremities.

Thorax: No cortical hyperostosis of ribs or clavicles. Lamellated cortical thickening of mandible as previously reported.

May 12, 1952, Clavicles: The axillary border of the scapula shows increase in density and in width. The left clavicle seems large and the acromion progress is also widened consistent with the subcortical periosteal thickening of the lower jaw structures.

June 23, 1952, Thorax: Re-examination of thorax at this time shows cortical hyperostosis of the upper ribs down to the 8th bilaterally. Unchanged involvement of left clavical and scapula as previously reported. The hyperostosis of the mandible is denser.

November 12, 1952, Clavicals, Jaws: There has been resolution of the periosteal new bone along the margin of the jaw. There is still some cortical thickening well organized inferiorly on the left clavical. Probable traces of thickened cortex still present along several ribs.

Summary

A case of infantile cortical hyperostosis is reported in a three-month-old female.

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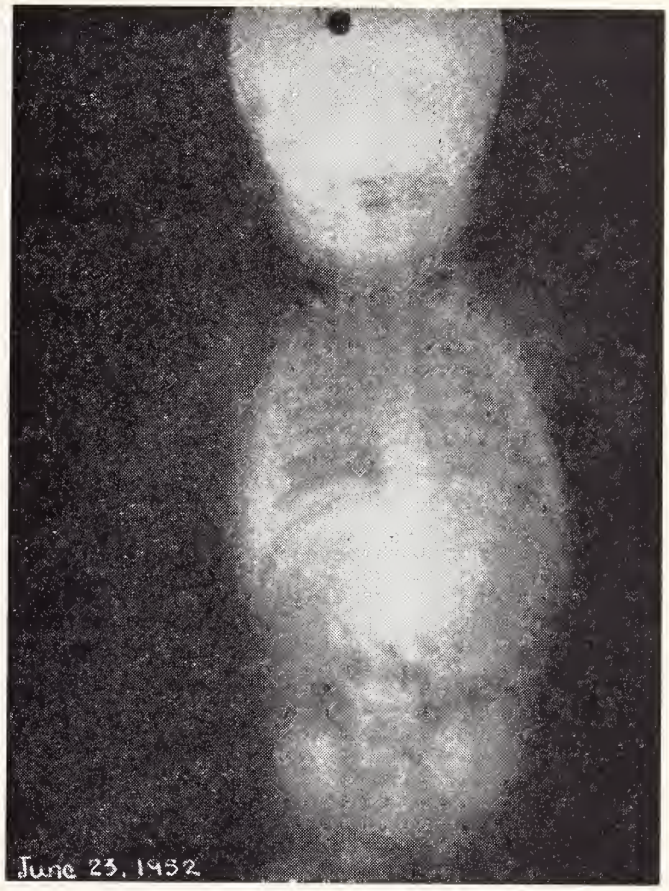

Figure II

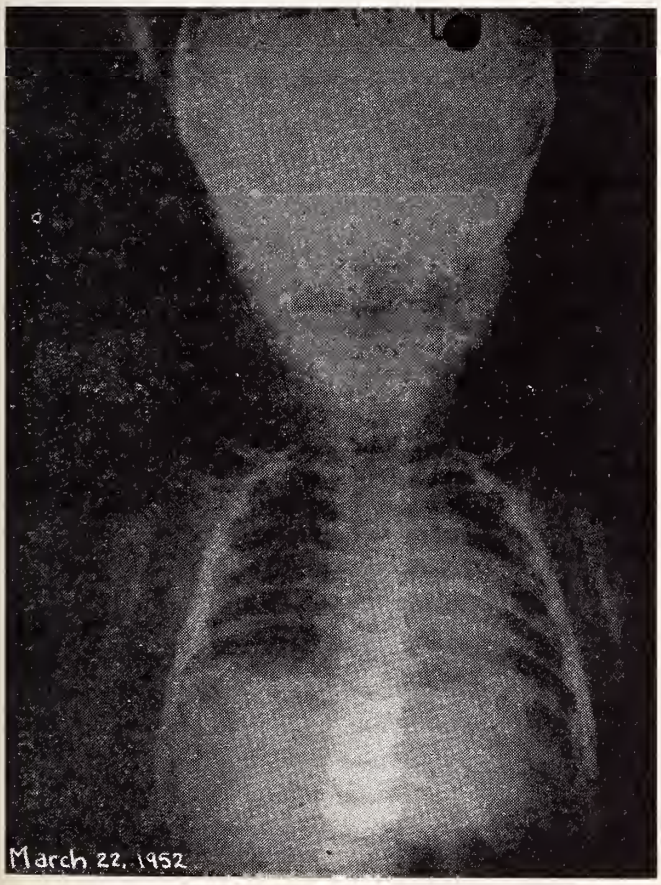

Figure I

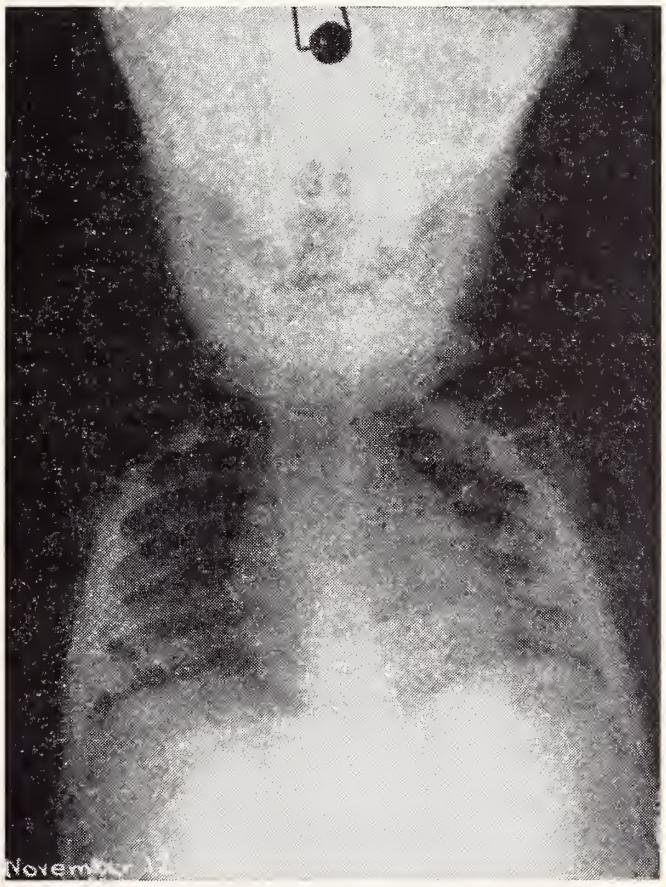

Figure III

PULMONARY HEMORRHAGE ASSOCIATED WITH BOECK'S SARCOID AND MITRAL STENOSIS

Case Report

Donald W. Drew, M. D.* **

Mrs. F. M., a 37-year-old housewife, was admitted to the Rhode Island Hospital on September 24, 1951, because of a third and most severe attack of hemoptysis. She had noted wheezy breathing for the past four years and had been treated for asthma. She denied chest pain and ankle edema, but had dyspnea, having to stop on two flights of stairs. On admission the hemoglobin was 8.3 Gms./100 c.c., and the patient was given a transfusion of 500 c.c. of whole blood.

Physical examination revealed a slightly obese female, in no distress, with a grade 3 diastolic rumble at the apex and no systolic component. There was a grade one aortic systolic blow in the aortic region and along the left sternal border. The pulmonary second sound was considerably accentuated. The blood pressure was 110/86. Examination of the lungs was essentially negative. No lymphadenopathy or splenomegaly was noted. Urinalysis was negative. An X-ray of the chest revealed marked nodular gland enlargement of both lung root structures and moderate thickening of all bronchovascular markings consistent with Boeck's Sarcoid, and straightening of the left heart border suggestive of rheumatic heart disease (Fig. 1). X-rays of the hands showed no destructive bone changes. A tuberculin test, 1-10,000, was negative. The patient was discharged on September 28, 1951, improved, with a diagnosis of rheumatic heart disease and mitral stenosis, and possible Boeck's sarcoid. The massive hemoptysis was thought to be due to pulmonary hypertension secondary to the stenotic mitral valve.

The patient got along fairly well until shortly before her admission on May 11, 1952, when another less severe bout of hemoptysis occurred. At this time physical examination was essentially unchanged except that now the tip of the spleen could be palpated. An electrocardiogram showed a normal rhythm with prominently notched P waves somewhat suggestive of auricular enlargement. There was no evidence of ventricular enlargement. Fluoroscopy revealed only slight enlargement of the left auricle, and no pulsations were noted in the prominent hilar structures. This was considered somewhat more in favor of adenopathy than dilated vessels. The hemoglobin was 15.2 Gms./100 c.c., w.b.c. 8,400/mm.^{3}, platelet count 308,000/mm.^{3}, clotting time 7′, and bleeding time 1′.

Fig. 1. Chest X-ray reveals hilar adenopathy consistent with Boeck's sarcoid and straightening of the left heart border as in mitral stenosis.

The total protein was 6.0 Gms., albumin 3.8 Gms./-100 c.c., and globulin 2.2 Gms. The decholin circulation time was eighteen seconds. Bronchograms, carried out at this time, were negative, and bronchial aspirations were negative for acid-fast bacilli or neoplastic cells.

Because of evidence of pure mitral stenosis, negligible aortic regurgitation, and the likelihood that the massive hemoptysis was on the basis of pulmonary hypertension, the patient was considered a desirable candidate for mitral valvuloplasty. At operation pure mitral stenosis was confirmed and a finger-fracture valvuloplasty was carried out without event. The hilar nodes were found enlarged at operation and there was a peculiar yellowish mottling of the lung surface. Biopsy specimens were taken from the hilar node, lung, and auricular appendage.

Specimens of the lung (Fig. 2) and hilar node (Fig. 3) under microscopic examination revealed

* Formerly Resident in Cardiology, Rhode Island Hospital, Providence, R. I.

** From Thayer Hospital, Waterville, Maine.

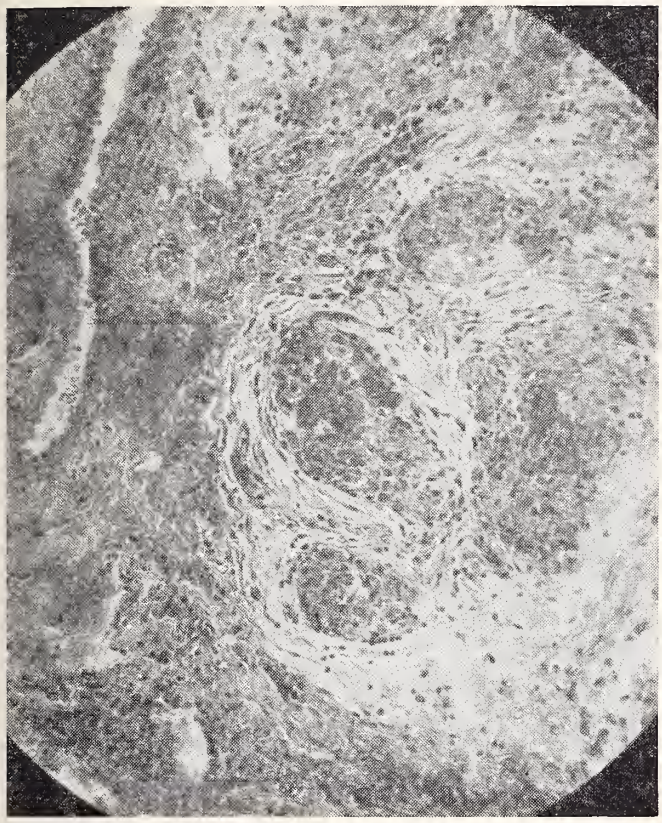

Fig. 2. Biopsy of lung shows granulomas similar to those found in lymph node.

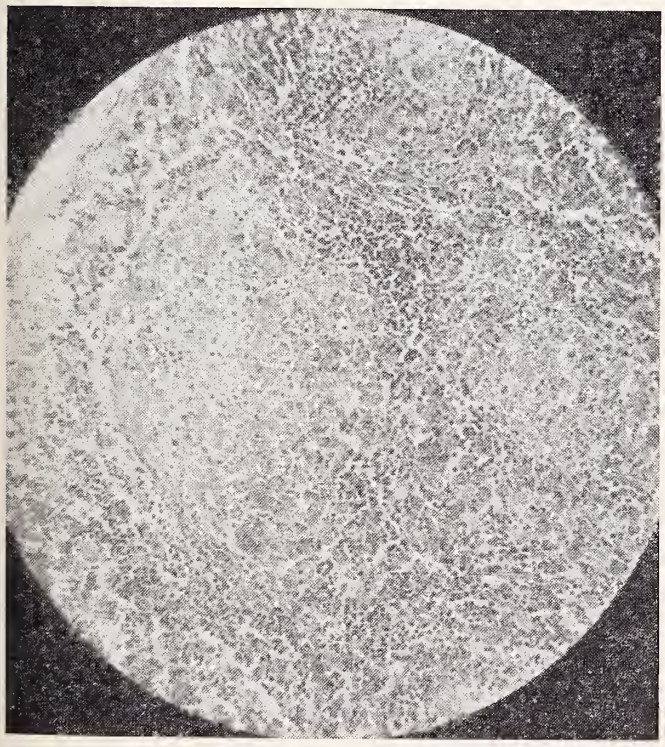

Fig. 3. Biopsy of hilar node shows granulomas with aggregates of epithelioid cells surrounded by lymphocytes. Langhans giant cells can be seen and all consistent with Boeck's sarcoid.

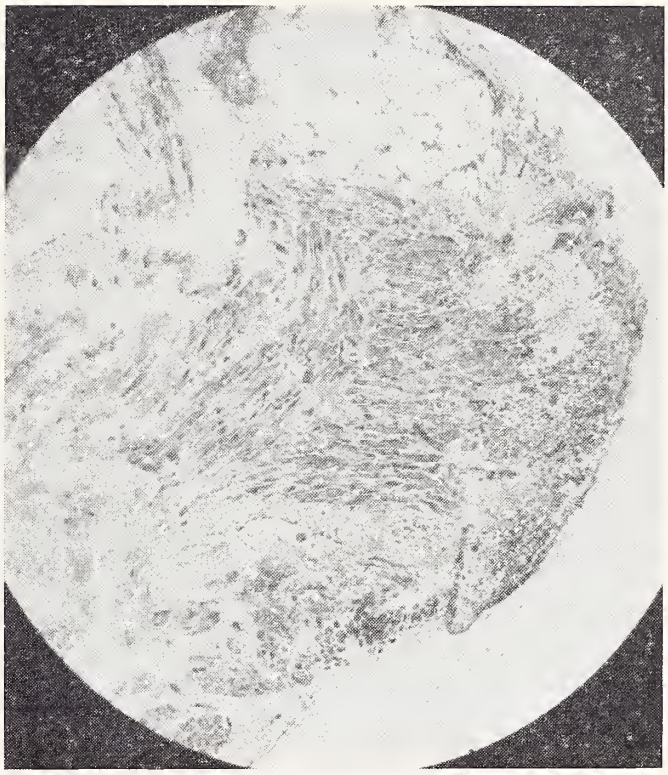

Fig. 4. Biopsy of Auricular appendage shows lymphocytes in endocardium and myocardium but no definite Aschoff bodies noted.

changes consistent with Boeck's sarcoid. The auricular biopsy (Fig. 4) was consistent with chronic rheumatic heart disease.

Post-operatively the patient had a troublesome urticaria and angio-neurotic edema of the lips which was easily controlled with a short course of cortisone therapy. The spleen enlarged transiently and became extremely tender. The tenderness soon disappeared but the spleen remained palpable. The patient was discharged on June 12, 1952, her 32nd hospital day, and was seen again on August 20, 1952, feeling well and having experienced no further hemoptysis.

Comment

This case was presented not only becausee of the unusual association of mitral stenosis and Boeck's sarcoid with pulmonary hemorrhage but also because of the rarity in which the latter disease is proven by lung and hilar node biopsy. Biopsies of the lung and hilar node were conveniently carried out at the time of mitral valvuloplasty.

The literature reveals ten cases of Boeck's sarcoid with hemorrhagic manifestations. It is interesting to note that while approximately fifty percent of all cases of Boeck's sarcoid have involvement of the spleen, sarcoid lesions have been found in the spleen in one hundred percent of these cases showing hemorrhagic manifestations. This brings up the possibility of so-called hypersplenism and its depression of mar-

row elements, including thrombocytopenia. Platelet counts were observed in seven instances in these ten cases and six showed thrombocytopenia.[1]

Massive gastro-intestinal hemorrhage has been reported as a complication of Boeck's sarcoid and at autopsy no focal lesions were demonstrated. Case No. 15 of Ricker and Clark's series[2] was a 22-year-old male who died of massive pulmonary hemorrhage in which autopsy revealed sarcoid of lung, liver, and spleen. The case presented has the interesting problem of pulmonary hemorrhage with mitral stenosis and Boeck's sarcoid; the former being, in itself, quite capable of producing massive pulmonary hemorrhage. Although the platelet count in this patient was well within normal limits at a time when there was no hemorrhage, it is suggested that the hypersplenism could produce a transient thrombocytopenia from time to time and enhance the possibility of hemorrhage.

It would certainly appear that the association of Boeck's sarcoid and serious hemorrhagic manifestations is more than coincidental. The question of splenectomy in such cases becomes a definite therapeutic problem.

Summary

1. A case of proven mitral stenosis and Boeck's sarcoid is presented in which valvuloplasty was carried out because of massive pulmonary hemorrhage.
2. The possible relationship of pulmonary hemorrhage to sarcoid involvement of the spleen with resultant hypersplenism and thrombocytopenia is suggested. This factor may enhance the possibility of hemorrhage in the presence of pulmonary hypertension secondary to mitral stenosis.

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General Principles Regarding the Treatment of Sinusitis, Pratt—Continued from page 41

mixed infection until the inciting abscess is cleared up, usually by dental extraction. Then, the presence of an infected sinus is a hazard which occasionally causes an antro-alveolar fistula to remain patent until suitable therapy is undertaken.

Therapy

The purpose of therapy in sinusitis is to change the existing condition to a more nearly normal physiological state.

1. Reduce obstruction:
   a. Due to edema — nasal vasoconstrictors — antihistamines.
   b. Due to anatomical anomalies—Polypectomy — Submucous resection of nasal septum — Cautery for hyperplasia of turbinates.
2. Eliminate Bacteria — Antibiotics.
3. Preserve ciliary action — use isotonic nose drops of proper p h, avoid oily nose drops.
4. Eliminate focus of infection — Dental extraction.

If severe irreversible disease has supervened by the time the patient is first seen, it may be necessary to add some form of surgical therapy to the more conservative methods described above. The techniques which may occasionally become necessary are:

1. Sinus irrigation.
2. Intranasal antrostomy.
3. Caldwell Luc operation (Radical Antrum).

Complications

Although sinusitis is a complication of upper respiratory infection itself, it may also produce complications. These are generally the anatomical extension of infection into other regions:

1. Acute otitis media.
2. Laryngitis.
3. Pulmonary Infection.
   a. Bronchitis.
   b. Pneumonia.
   c. Bronchiectasis.
   d. Lung Abscess.
4. Cervical Adenitis.
5. Orbital Abscess.
6. Meningitis.

Summary

Out of this consideration, one lone item stands out as being the most important single factor in sinus disease. This is *obstruction* to sinus ostia. If this is adequately relieved by nasal vasoconstrictors, allergic regime, submucous resection of a deflected nasal septum, polypectomy, or by remedying other mechanical defects it is generally true that the activity of the ciliary lining of the sinus will cure or prevent infection. For this reason, the major treatment of sinus disease should be largely directed at the elimination of such obstruction with adjuvant use of antibiotics and surgical complexities reserved for cases with otherwise irreversible changes.

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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EDITORIAL SECTION

"Doctor Draft Law"

One of the uncertainties confronting the younger practitioners of today, as mentioned in our last issue, is the revision of the "doctor draft law"; Public Law 779.

Some information on the subject has appeared in a recent issue of "News Notes" which is written by the A.M.A. for use in State Medical Journals.

The Armed Forces Medical Policy Council has forwarded to the office of the Secretary of Defense some revisions to be co-ordinated with Military Departments. The news states that, "until agreement has been reached within the Department, contents of the new bill will not be announced."

The "News Notes" article does report, however, that "the new measure presumably will abolish the present categories and classify registrants into two groups: (1) All persons who did not serve in the armed forces during World War II—youngest to be called first; (2) Persons who have served—those with least amount of service to be called first. Also, the bill would provide that special registrants now classified in priorities 1 and 2 would be inducted when they became available for duty. Persons who have served on active duty for 12 months or more subsequent to June 25, 1950, would not be liable for further military service."

Another revision called for a re-evaluation of physicians previously disqualified. In this group including priorities 1 and 2, about 2,600 physicians would be re-examined. Action of the Congress may be expected by June, 1953 and the present uncertainties may be dissolved.

It seems appropriate at this time to review the position occupied at present by the State Medical Advisory Committee. A National Advisory Committee was established by the President to advise the Selective Service System and to co-ordinate the work of such State and local Advisory Committees as may be established.

In 1950, Dr. Foster A. Small in accordance with the policy outlined appointed a Doctors State Advisory Committee consisting of Dr. Roland L. McKay of Augusta, Dr. Ralph A. Goodwin of Lewiston, Dr. Forrest B. Ames of Bangor and Dr. P. L. B. Ebbett of Houlton. At a later date Dr. Thomas A. Foster of Portland was added to the committee. An organization meeting was held in Augusta in the autumn of 1950 and Dr. McKay was elected to serve as Chairman. Dr. McKay had served previously with the Selective Service System during World War II.

The names of doctors residing in Maine selected for active duty are forwarded from Central Headquarters to the 1st Corp Area for consideration and frequently sent to Augusta, Maine for further consideration. The Chairman of our Committee in turn, mails the name to the member of the committee from the district in which the doctor has a residence and a practice. The committee member gathers information locally relative to the doctor's "availability" and "essentiallity" and returns it with a notation of his findings to the Chairman. The Chairman forwards all the data to the 1st Corp Area Headquarters where the decision is made. Our committee, it must be understood, has advisory powers only.

Questions have been asked in some places about the present process of selection. The above aims to explain the procedure.

General Practice

Our esteemed friend and neighbor "The New England Medical Journal" has published in two recent issues; viz., January 22nd and 29th, two articles under Medical Progress, entitled "General Practice, Today and Tomorrow". And, on the "Editorial Page of the January 22nd number appears an editorial comment on the articles and the authors.

Inasmuch as a high percent of the members of our Association are engaged in the general practice of medicine, we call these enlightening articles to your attention.

Added interest in the articles arises from the fact that the Senior author, Dr. Donald M. Clark lives and practices in Peterborough, New Hampshire. He is a graduate of the University of Vermont Medical School and a lecturer on general practice at Boston University School of Medicine. He, therefore, is identified closely with the New England Medical scene and is familiar with the problems and rewards of a general practice in our kind of Country and with our kind of people. We recommend the presentation to our members.

Progress Report of the Committee for the Centennial Celebration

MEDICAL CLINICS

The medical clinics to be held during the mornings of the Centennial Celebration are intended to represent a simultaneous blast of general entertainment and medical elucidation from both barrels of the Scientific Planning Committee's gun. A real chewey clinical pathological conference will be held at the Maine General Hospital and Mercy Hospital with Doctors Porter and Leary as respective matadors and two of our eminent guest speakers out on the proverbial limb.

Although a number of fifteen-minute case presentations will be made by men specializing in various and sundry fields, the real backbone of the clinical sessions is to include the presentation of interesting problems in general practice by general practitioners. This is fitting and proper since the general practitioner is to be the celebrated "Man of the Hour" at the Centennial Celebration. With regret and remorse, however, the chairman must report an unfortunate reluctance on the part of men in general practice to show initiative in responding with their cases. An appeal is therefore being made at this time for men, willing and anxious to participate in the clinical presentations, to send their names and subject title to the chairman of the Scientific Committee. It seems necessary to remind physicians that the general practitioner is the man who has the golden (albeit trying) opportunity to see patients who present diagnostic problems in their most challenging and exciting phase. There should be a deluge rather than a dearth of material available for presentation. We are going to make an attempt to prove that such a deluge is possible by printing a form, at the close of this report, which can be filled in as indicated and returned to the Maine Medical Association, Att.: Dr. C. Lawrence Holt, Chairman, Centennial Committee, 142 High Street, Portland 3, Maine.

The clinical sessions to be held at the Maine Eye & Ear Infirmary will include papers and case presentations by men specializing in eye, ear, nose and throat work.

C. Lawrence Holt, M. D.,
Chairman, Centennial Committee.

Maine Medical Association
Att.: Dr. C. Lawrence Holt, Chairman, Centennial Committee
142 High Street, Portland 3, Maine

I would like to present the following case .....
(subject)

at the medical clinic at the Maine General Hospital ....., Mercy Hospital .....,

on Tuesday A. M., June 23, ..., Wednesday A. M., June 24 ..... *(Check hospital and date preferred.)*

Remarks: .....

.....

Signed: ..... M. D.

Date ..... 1953 Address: .....

Report of AMA Delegate

The clinical session of the AMA, as you are aware, was held in Denver, Colorado, from the 2nd to the 5th of December. As could be expected the tension which has surrounded these meetings in the past several years was greatly relaxed due to the election of General Eisenhower. He appears to be an individual who believes in the elimination of the Socialistic trends which have completely dominated the past several administrations.

There were multiple problems facing the Society; the most important ones I will mention. First, is the unqualified support of the Society in trying to put through legislation which will permit the establishment of pensioned funds for the doctors, the amount applied to this fund being deductible from one's income and tax free. This legislation has the support of other professions and has a good chance of enactment.

Secondly, the continued support of medical schools and the consideration to re-adjust the aid to where the need is greatest.

Thirdly, and the one which caused the greatest discussion is the treatment of non-service veteran disabilities. As you men are aware, with the number of veterans now receiving such care and with apparent continuance of inducting male population into the service, it is not difficult to see in the far distant future that this might be, in fact could easily be, the wedge which would establish a free medical service under government supervision. I mean free as respect to the recipient and not the tax payer. The AMA is fighting this with great determination and I would appreciate any reactions you have. It would better permit me to speak in your behalf at the ensuing meetings.

The establishment of three new medical schools was discussed, these already meet the requirements of the AMA and are now recognized. Eleven more are in the process of formation and are being closely supervised in order that they are proper and adequate.

A tremendous amount of time has also been spent as regards the distribution of interns so that all hospitals would be better served and not just a few larger centers. One must appreciate the difficulties in this, but I am sure progress is being made.

Your opinions and suggestions as regards any problems facing the AMA would be greatly appreciated.

Respectfully submitted,

M. A. Vickers, M. D.

HOSPITAL STAFF MEETINGS

Open to the Profession

CITY	HOSPITAL	DATE
Augusta	Augusta General Hospital	1st Wednesday
Bangor	Eastern Maine General	2nd Tuesday
Bath	Bath Memorial Hospital	1st Tuesday
Belfast	Waldo County	2nd Friday
Biddeford	Webber Hospital Notre Dame Hospital	2nd Thursday 2nd Monday
Boothbay Harbor	St. Andrew's Hospital	4th Tuesday
Caribou	Cary Memorial	1st Wednesday
Damariscotta	Miles Memorial	2nd Thursday
Farmington	Franklin County Memorial	2nd Monday
Greenville	Charles Dean Hospital	2nd Wednesday
Hartland	Scott Webb Memorial Hospital	1st Wednesday
Lewiston	Central Maine General St. Mary's General	2nd Thursday 2nd Monday
Portland	Maine Eye and Ear Infirmary Maine General Mercy	1st Tuesday 2nd Friday 4th Thursday
Presque Isle	Presque Isle General	1st and 3rd Tuesdays
Rockland	Knox County General	1st Monday
Rumford	Rumford Community	4th Wednesday
Sanford	Goodall Memorial	2nd Tuesday
Waterville	Sisters Thayer	2nd Tuesday Every Thursday

The above list was compiled from a questionnaire sent out by the Maine Hospital Association. Additions or corrections will be made on notification to the Secretary, Maine Hospital Association, Thayer Hospital, Waterville.

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COUNTY SOCIETY NOTES

Franklin

Dr. George L. Pratt to be Maine's Guest of Honor at First Western Hemisphere Conference of the World Medical Association

Dr. George L. Pratt of Farmington will be Maine's guest of honor at the First Western Hemisphere Conference of the World Medical Association, to be held in Richmond April 23 to 25, 1953, in observance of the lengthening of life and the constant improvement of human health.

Governor Burton M. Cross of Maine, in a message to Governor John S. Battle of Virginia relative to the selection, added that Dr. Pratt has accepted the invitation. Recently Governor Battle asked each of his 47 fellow-Governors to appoint a physician who will reach the age of 75 during 1953 to visit Virginia and tell of medical advances that have taken place during his lifetime.

Dr. Pratt, a surgeon, was born at about the time when pioneering Robert Koch published a history-making treatise on causes of infection, opening the way to rapid progress in surgery and other fields of medicine. Dr. Pratt was graduated in 1904 from the Bowdoin Medical School which held classes in both Brunswick and Portland.

At the Richmond conference, guests will be greeted by Dr. Louis H. Bauer, president of the American Medical Association, and by leaders of Latin American medical societies. Besides scientific sessions, there will be opportunities for visiting historic sites in Virginia, including the 18th century Williamsburg restoration. Expenses of the conference, and of guests and delegates, are covered through a grant by A. H. Robins Co., Inc., ethical pharmaceutical house founded in Richmond 75 years ago this year.

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, January 14, 1953. There were fourteen members and three guests present.

The meeting was opened by the president, Dr. Herbert T. Wilbur of Southwest Harbor.

Dr. Karl V. Larson of East Machias, District Councilor, spoke briefly on the coming Centennial Session of the Maine Medical Association, to be held in Portland next June.

Dr. Donald Coulton of Bangor, speaker of the evening, gave a very interesting talk on The Elective Induction of Labor.

Arthur M. Joost, Jr., M. D.,
Secretary.

Kennebec

The annual meeting of the Kennebec County Medical Association was held at the Augusta State Hospital, Augusta, December 11, 1952. The meeting began at 6.45 P. M., with a most excellent dinner served to forty-eight members and guests.

President and host, Dr. Francis H. Sleeper, called the business session to order at 8.00 P. M. The annual reports of the Secretary and Treasurer were read and approved. Dr. Allen I. Saunders of Augusta, was elected to membership.

The following Officers were elected for the coming year:

President, Dr. Kurt A. Sommerfeld, Gardiner.

Vice-President, Dr. Charles E. Towne, Waterville.

Secretary-Treasurer, Dr. Arch H. Morrell, Augusta.

Councilors: Dr. Wilson H. McWethy, Augusta (one year), Dr. Hugh Mathews, Jr., Gardiner (two years), Dr. Arthur H. McQuillan, Waterville (three years).

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The remarkable relief afforded by Dramamine in motion sickness has led to studies of its possible value in allied conditions.

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- hypertensive disease
- fenestration procedures
- labyrinthitis
- radiation sickness

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

SEARLE *Research in the Service of Medicine*

Herbert E. Locke, Esq., of Augusta, guest speaker of the evening, was introduced by Dr. Sleeper. Mr. Locke's subject was Medicine and the Law. The paper, which amounted to a masterly thesis produced much discussion.

A. H. Morrell, M. D.
Secretary.

Knox

Dr. John A. McGrath, Jr., of the New England Center Hospital, Boston, was guest speaker at a meeting of the Knox County Medical Association, January 13, 1953 at the Copper Kettle in Rockland. His subject was Abnormality of the Menses.

Penobscot

Dr. Samuel Proger of the New England Center Hospital, Boston, was guest speaker at a meeting of the Penobscot County Medical Association, January 20, 1953 at the Bangor House, Bangor. Dr. Proger's subject was the Cardiac Patient as a Surgical Risk.

Dr. Eugene H. Drake of Portland, President of the Maine Medical Association, spoke briefly relative to the Centennial Session of the Maine Medical Association, to be held in Portland next June.

Washington

A joint meeting of the Washington County and St. Croix Medical Societies was held on Wednesday, January 28, 1953 at DeMonts Restaurant, Calais, with twenty-two members and guests present.

Dr. P. J. Mundie of Calais, president of the St. Croix Society, presided at the afternoon session and introduced the guest speakers; Dr. George M. White and Dr. R. T. Hayes, both of St. John, N. B.

Dr. White's subject was Office Gynecology.. His paper was followed by an active discussion period conducted by Dr. S. R. Webber of Calais.

Dr. Hayes spoke on Glaucoma and showed a short movie on the subject. The discussion was conducted by Dr. Mundie.

Dr. James C. Bates of Eastport, president of the Washington County Society, presided at the business meeting, which was followed by an excellent roast beef dinner.

Dr. Frederick Whitehead, guest speaker at the evening meeting, spoke regarding the essential differences between the Blue Shield Indemnity and Service Plans. This was followed by a stimulating discussion, and it was decided that our present indemnity plan was much superior to a service plan.

Karl V. Larson, M. D.
Secretary.

York

The annual meeting of the York County Medical Society was held at the Kennebunk Inn, Kennebunk, January 14, 1953 at 1.00 P. M. A social hour followed by a fine dinner preceded the meeting.

Dr. Harrison Black of Boston, gave a very interesting talk on Recent Advances in Surgery of Acquired Heart Disease.

The following Officers were elected for the coming year:

President, Dr. Frank W. Barden, Biddeford.

Vice-President, Dr. Leandre R. Charest, Biddeford.

Secretary-Treasurer, Dr. Charles W. Kinghorn, Kittery.

Board of Censors: Dr. H. Danforth Ross, Sanford; Dr. Stephen A. Cobb, Sanford; and Dr. Joseph R. LaRochelle, Biddeford.

Delegates to the Maine Medical Association: Dr. James H. Macdonald, Kennebunk; Dr. Paul S. Hill, Jr., Saco; and Dr. Edward W. Holland, Sanford. Alternates, Dr. William F. Mahaney, Saco; Dr. Maurice Ross, Saco; and Dr. Alexander W. Magocsi, York.

Committee on Resolutions: Dr. H. Danforth Ross, Dr. Willard H. Bunker and Dr. William B. O'Sullivan.

Publicity Representative, Dr. Paul S. Hill, Jr.

Dr. Alvin A. Hoffman of Mattapan, Massachusetts, who plans to locate in York County, was elected to membership.

Mr. R. F. Nellson of the Associated Hospital Service of Maine, gave an instructive talk on the Blue Shield Plan.

There were fifteen members and three guests present.

C. W. Kinghorn, M. D.,
Secretary.

New Members

York

Dr. Alvin A. Hoffman, 115 Ormand Street, Mattapan 26, Massachusetts.

Dr. Robert F. Martin, 338 Main Street, Saco Maine.

Change of Address

Cumberland

Dr. Edward M. Cook
From—San Diego, California.
To—21 Kenilworth Street, Portland, Maine.

Kennebec

Dr. Harvey J. Bourassa
From—50 Main Street, Waterville, Maine.
To—15 Silver Street, Waterville, Maine.

Dr. Donald W. Drew
From—R. I. General Hospital, Providence, R. I.
To—177 Main Street, Waterville, Maine.

Dr. Sabro Tashiro
From—Baltimore, Maryland.
To—Veterans' Administration Hospital, Northampton, Massachusetts.

Remember the Dates—June 21-24, 1953.

Remember the Event—Centennial Session of the Maine Medical Association.

Remember the Place—Portland, Maine (Headquarters, The Eastland).

NECROLOGY

James W. Crane, M. D.
1879 - 1952

Doctor James W. Crane of Baring passed away on December 5, 1952 at the age of 73.

Doctor Crane took up residence at Baring early in 1952 following his retirement as Plant Physician at the St. Croix Paper Company, Woodland, Maine.

The Doctor was born in Whiting, August 25, 1879, the son of Alfred M. and Mary E. Crane. He attended local schools, graduated from Washington Academy in East Machias, and received his medical degree from the Bowdoin Medical School in 1908. He interned at the Eastern Maine General Hospital in Bangor, following which he moved to Dennysville where he practiced for nineteen years. Extensive lumbering operations were carried on in that vicinity and he cared for victims of "woods accidents" which were numerous and severe under the old lumbering system. He practiced in Princeton for two and one-half years coming to Woodland on November 1, 1930 to be Plant Physician for the St. Croix Paper Company, a position he held until early spring 1952. In addition to his professional duties he had taken an active interest in community affairs and was a member of the Superintending School Committee resigning in August, 1951.

Besides his long and successful career as a practicing physician he was a keen business man, and was often consulted along business lines. His advice and wise counsel was a valuable contribution to those who were privileged to receive it.

Doctor Crane was a Senior Member of the Washington County Medical Society and the Maine Medical Association. He was a member of the Masonic bodies and took an active part in the Shrine.

He is survived by his wife and a step-daughter.

NOTICES

Maine Medico-Legal Society Annual Session

The Maine Medico-Legal Society will not hold its Annual Meeting in Portland in June, 1953 .

This is in compliance with a request of the Maine Medical Association.

Notice will be given in the Journal of the time and place of the Annual Meeting.

George L. Pratt, M. D.
Secretary
Maine Medico-Legal Society

Fourth Supplement to Motion Picture Reviews Now Available

The Committee on Medical Motion Pictures of the A.M.A. has completed the fourth supplement to the booklet entitled "Reviews of Medical Motion Pictures." It contains all the film reviews published in The Journal, from January to December, 1952.

The purpose of the reviews is to provide a brief description and evaluation of motion pictures which are available to the medical profession. Each film is reviewed by competent authorities.

One copy has been mailed to the secretary of each state medical society. Copies are available to county medical societies on request from: Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10.

Tumor Clinics

Sisters Hospital, Waterville, Maine, 1st and 3rd Thursdays, 10.00-11.00 A. M., Armand L. Guite, M. D., Director.

Augusta General Hospital, Augusta, Maine, 1st Monday, 9.00 A. M., Leon D. Herring, M. D., Director.

Bath Memorial Hospital, Bath, Maine, 2nd Tuesday, 3.00-5.00 P. M., Francis A. Winchenbach, M. D., Director.

Maine General Hospital, Portland, Maine, Thursdays, 10.00 A. M., Joseph E. Porter, M. D., Director.

Presque Isle General Hospital, Presque Isle, Maine, Thursdays, 10.00-12.00 A. M., Storer W. Boone, M. D., Director.

Madigan Memorial Hospital, Houlton, Maine, 2nd and 4th Wednesdays, 10.00-12.00 A. M., Joseph A. Donovan, M. D., Director.

Central Maine General Hospital, Lewiston, Maine, Tuesdays, 10.00 A. M., Waldo A. Clapp, M. D., Director.

St. Mary's General Hospital, Lewiston, Maine, Wednesdays, 3.30 P. M., Romeo A. Beliveau, M. D., Director.

Eastern Maine General Hospital, Bangor, Maine, Thursdays, 10.30 A. M., Magnus F. Ridlon, M. D., Director.

Thayer Hospital, Waterville, Maine, Tuesdays, 10.00-11.00 A. M., Irving I. Goodof, M. D., Director.

Department of Health and Welfare Division of Maternal and Child Health (Including Services for Crippled Children) Clinic Schedule — January Through June, 1953*

* The Schedule for July through December will be published in a later issue.

Orthopedic Clinics

Portland — Maine General Hospital, 9.00-11.00 a. m.: Jan. 12, Feb. 9, Mar. 9, Apr. 13, May 11, June 8.

Lewiston — Central Maine General Hospital, 9.00-11.00 a. m.: Jan. 16, Feb. 20, Mar. 20, Apr. 17, May 15, June 19.

Rumford — Community Hospital, 1.30-3.00 p. m.: Mar. 18, June 17.

Waterville — Thayer Hospital, 1.30-3.00 p. m.: Feb. 26, June 25.

Rockland — Knox County Hospital, 1.30-3.00 p. m.: Feb. 19, May 21.

Machias — Normal School, 1.30-3.00 p. m.: Feb. 11, Apr. 1, June 10.

Presque Isle — Northern Maine Sanatorium, 9.00-11.00 a. m. — 1.00-3.00 p. m.: Jan. 13, Mar. 11, May 12.

Houlton — Aroostook General Hospital, 9.00-11.00 a. m.: Mar. 10.

Fort Kent — Peoples Benevolent Hospital, 10.00 a. m.-1.00 p. m.: Jan. 14, May 13.

Bangor — Eastern Maine General Hospital, 1.30-3.00 p. m.: Jan. 22, Mar. 26, May 28.

Augusta — Augusta General Hospital, 1.00-3.00 p. m.: Apr. 23.

Cardiac Clinics

Portland — Maine General Hospital, 9.00-12.00 a. m.: Will be held every Friday with the exception of holidays.

Bangor — Eastern Maine General Hospital, 9.00-11.00 a. m.: Jan. 23, Feb. 27, Mar. 27, Apr. 24, May 29, June 26.

Hard-of-Hearing Clinics

Waterville — Thayer Hospital, 1.30-3.30 p. m.: Feb. 18, June 3.

Pediatric Clinics

Bangor — Eastern Maine General Hospital, 1.30 p. m.: Jan. 23, Feb. 27, Mar. 27, Apr. 24, May 29, June 26.

Waterville — Thayer Hospital, 1.30 p. m.: Jan. 6, Feb. 3, Mar. 3, Apr. 7, May 5, June 2.

Presque Isle — Northern Maine Sanatorium, 1.30 p. m.: Jan. 21, Mar. 25, May 27.

By Appointment Only

COMING MEETINGS

Maine Medical Association Centennial Session, Eastland Hotel, Portland, Maine, June 21-24, 1953. Chairman Centennial Committee, Dr. C. Lawrence Holt, Portland. See "Progress Report of the Committee for the Centennial Celebration," which is published elsewhere in this issue of the JOURNAL.

American Medical Association, 1953 Annual Session, New York City, June 1-5. Secretary, Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Ill.

For the first time in many years, the Annual Meeting of A. M. A. is being held in New York City, at Grand Central Palace. More than 15,000 physicians are expected to register and about 30 other conventions will be meeting in New York City at about the same time. IMPORTANT: Physicians will need a 1953 A. M. A. pocket card to admit them to the Scientific and Technical Exhibits, as well as to the sectional meetings.

National Conference on Rural Health, Roanoke Hotel, Roanoke, Va., Feb. 27-28. Secretary, Mrs. Arline Hibbard, 535 North Dearborn St., Chicago 10, Ill.

Connecticut State Medical Society, Hamden High School, Hamden, Connecticut, April 27-29, 1953. Secretary, Dr. Creighton Barker, 160 St. Ronan Street, New Haven, Connecticut.

Massachusetts Medical Society, Boston, May 19-21, 1953. Secretary, Dr. Dwight O'Hara, 22 The Fenway, Boston 15, Massachusetts.

Rhode Island Medical Society, Rhode Island Medical Society Library, May 6 and 7, 1953. Secretary, Dr. Thomas Perry, Jr., 106 Francis Street, Providence 3, Rhode Island.

American Academy of General Practice, Kiel Auditorium, St. Louis, Missouri, March 23-26, 1953. Executive Secretary, Mr. Mac F. Cahal, 406 West 34th Street. Kansas City 2, Missouri.

American Association of Pathologists and Bacteriologists, St. Louis, Missouri, April 2-4, 1953. Secretary, Dr. Alan R. Moritz, 2085 Adelbert Road, Cleveland 6, Ohio.

American College of Surgeons (Sectional Meeting), Boston, March 2-5, 1953. Chairman, Dr. Samuel F. Marshall, 605 Commonwealth Avenue, Boston, Massachusetts.

New England Society of Anesthesiologists, Boston, April 3, 1953. Secretary, Dr. Francis J. Audin, 114 Danehill Road, Newton Highlands 61, Massachusetts.

American Association of the History of Medicine, Columbus, Ohio, April 10-12, 1953. Chairman, Dr. Linden F. Edwards, Hamilton Hall, Ohio State University, Columbus 10, Ohio.

American Goiter Association, Drake Hotel, Chicago, Illinois, May 7-9, 1953. Corresponding Secretary, Dr. George C. Shivers, Colorado Springs, Colorado.

American College of Chest Physicians. The Nineteenth Annual Meeting of the American College of Chest Physicians will be held at the Hotel New Yorker, New York City, May 28-31. Physicians who wish to present papers at the meeting should submit titles and abstracts to Dr. Arthur M. Olsen, Chairman, Committee on Scientific Program, American College of Chest Physicians, Mayo Clinic, Rochester, Minnesota.

Advertisement

From where I sit
by Joe Marsh

Bunny's Story Had a Nice "Ring" to It

"Bunny" Baker—our cute blonde secretary over here at the newspaper—showed up late for work the other morning and "scooped" us all.

Bunny came in carrying a big box of cigars under her arm and, without a word, went around dropping a cigar off at each desk. Finally, when we were all but bursting with curiosity, Bunny told us what was going on. She held up her left hand and proudly displayed a lovely diamond ring on her third finger.

"It's a boy," she said. "Six feet two, a hundred ninety-six pounds."

From where I sit, Bunny's way of announcing her engagement showed real ingenuity. And ingenuity—doing things in a better and different way—is a typical American trait. Freedom of expression, freedom to work how and where we please . . . even a little thing like the freedom to choose a glass of beer after a day's work—these are some things that make our nation so "engaging."

Joe Marsh

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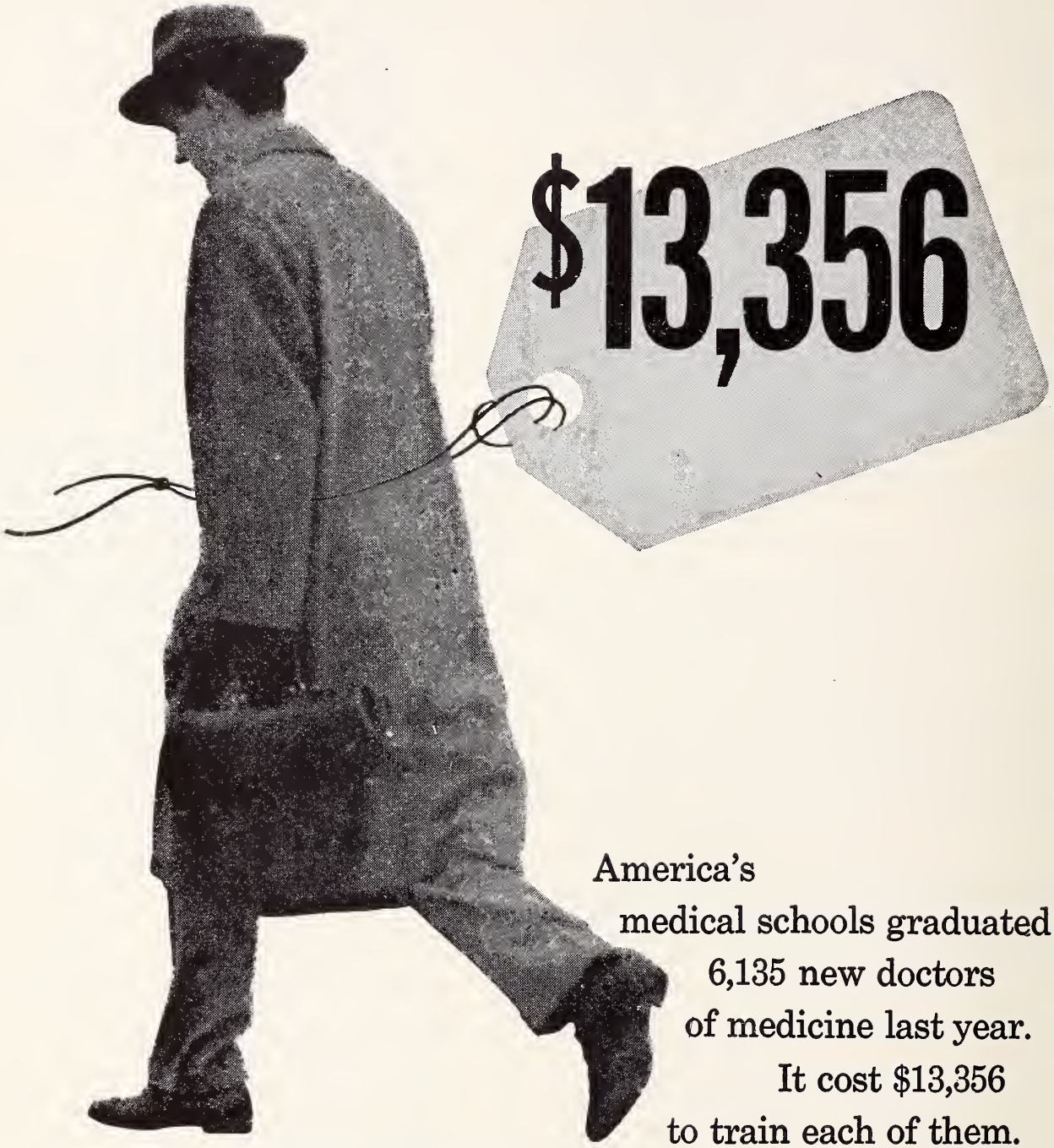
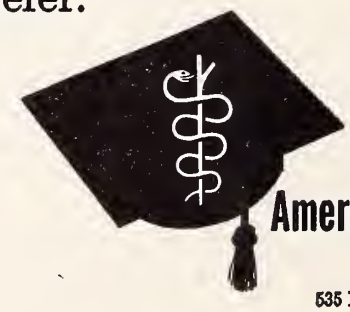


America's medical schools graduated 6,135 new doctors of medicine last year. It cost $13,356 to train each of them. Most of this becomes medical school operating deficit which we as a profession must help meet. We will send your contribution along to the medical school of your choice if you prefer.



American Medical Education Foundation

535 North Dearborn Street, Chicago 10

The Journal of the Maine Medical Association

Volume Forty-Four | Portland, Maine, March, 1953 | No. 3

THE STATUS OF TUBERCULOSIS CONTROL IN MAINE — A CRITICAL STUDY*

Alta Ashley, M. D., M. P. H.**

Tuberculosis is one of the major socio-economic problems encountered by health workers, yet, as a cause of death, it grows less and less important and to an ever increasing rate in the United States. This paradox is due to the nature of the disease. It strikes during the greatest productive period of an individual's life; it requires long periods of inactivity to effect a "cure"; the afflicted individual is ever in danger of a "break" when rules of good hygiene are ignored or whenever certain intercurrent infections occur; it is usually symptomless or insidious in its onset and may progress to an advanced stage before the victim realizes he is ill; it mimics so readily that it is frequently considered and treated as another disease; though highly infectious, its incubation period is so long that tracing the source of infection is often difficult or impossible. All these factors make the control of the disease difficult. Newer forms of treatment have increased the number of survivors, and thus the number of "arrested" cases who are potential sources of infection if and when they revert to "active" cases. Follow-up of such cases assumes a larger and larger portion of any control program. Thus, in the face of a rapidly decreasing death rate the problem of tuberculosis control continues to be of prime importance in a public health program.

Morbidity from tuberculosis, as one might expect, has experienced a similar fall in rate. Teague,[1] quoting from a report prepared by the Division of Chronic Disease and Tuberculosis of the Public Health Service states that morbidity has fallen on an average of slightly more than 3% yearly throughout the nation since 1947, despite increased efficiency of casefinding over this period. He also states that the average rate of new tuberculosis infection fell from 5.3 per patient year to less than 1.0 from 1929 to 1949, as shown by tuberculin test conversion studies carried out at the Henry Phipps Institute. This reveals clearly how rapidly we are approaching the production of a virtually non-immune population and the dangers inherent in such a population. The goal of tuberculosis control, therefore, must be nothing short of eradication of the disease. Rather than relaxing, we must continue for some time to come to increase our efforts in order that we may attain the goal which has become just visible on the distant horizon.

Circumstances which surround tuberculosis have changed so greatly over the first half of this century that old standards of computation of morbidity, infection rates, etc., cannot be accepted. Former industrial hazards have been recognized and to a large extent

EDITORIAL NOTE

Your Editor hereby thanks the Department of Health and Welfare for making publication of this excellent article possible by providing the cuts contained therein, and the author for permitting us to delete Tables I, II, IV, V, VI and VII, "in the interest of economy." Data contained in these tables can be obtained from the author, Dr. Ashley, Bureau of Health, State House, Augusta.

A second article, pertaining to this subject, will appear in an early issue of the Journal.

* From the Department of Health and Welfare, Bureau of Health, Augusta, Maine.

** Special Assistant.

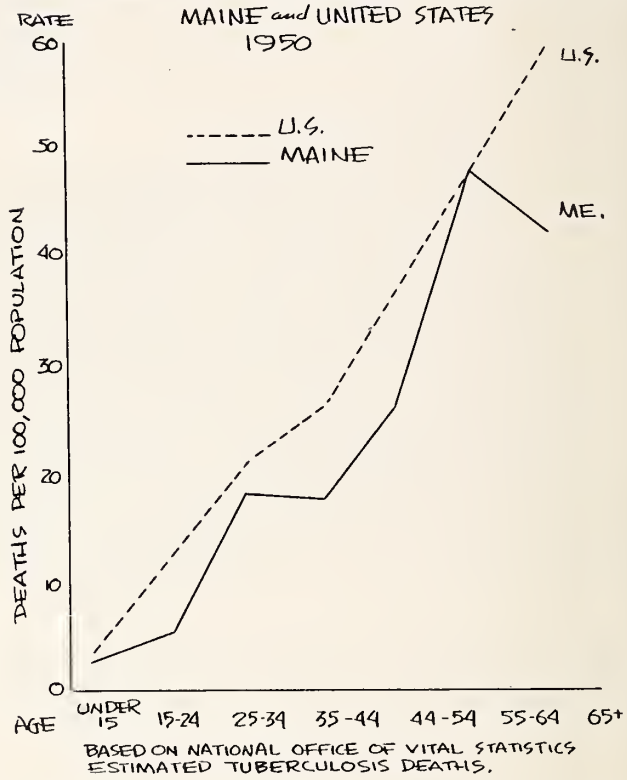
removed, but new ones constantly arise and take their toll before their importance is recognized; living conditions have improved for most of our population, but have worsened for some; treatment has increased survival time and the number of arrested cases in relation to total cases; the realization by the public that sanatorium care is the road to recovery more often than to the grave has increased the demand for beds far beyond any point dreamed of even a short time ago; added to this, chemotherapy has prolonged survival period of even far advanced cases to such an extent that all institutions are experiencing a slow-up in the rate of patient turn-over; lastly, the general increase in life span due to better general medical care has increased the age at death of tuberculous as well as persons of the general population. The old figure of 3.5 beds for every tuberculosis death is quite inadequate; Chadwick and Pope's[2] figure for average survival period of somewhere between three and four years between diagnosis and death has become outmoded. Teague[1] found that patients diagnosed as having active disease in the twenty-year period from 1926 to 1945 had an average survival period of 5.9 years, for whites the figure was 11.2 and for non-whites 3.5. On further breakdown, he found that cases diagnosed in the minimal stage survived on an average of 25.1 years after diagnosis, contrasted with only 1.1 years for those diagnosed in the far advanced stages of the disease.

It is plain from the above that old standards cannot be used in the estimation of the nature and extent of the problem of control. For this reason a study of the status of tuberculosis control in Maine was undertaken. The fiscal year of 7/1/50 to 7/1/51 was used as the study period, with a few exceptions; mortality figures are always quoted for calendar years. The data obtained are given in accompanying tables and represented graphically.

Mortality rates for tuberculosis have fallen more or less steadily over the past half century in Maine as in the rest of the country. In 1900 the rate for "consumption" was 147.9, in 1922 it had fallen to 69.0, in 1930 it was 46.5, in 1940 the rate was only 28.1 and in 1950 it had fallen to 16.3. The decrease has occurred at an ever increasing speed, particularly in the period from 1945 to 1950 (a 76.1% decrease as compared with a 1.3% decrease from 1935 to 1940). In the three-year period, 1946 through 1948, tuberculosis ranked as only eighth among the ten leading causes of death for all ages in Maine. However, this disease moved up to fourth in importance as a cause of death in the 25 to 44 year age group, being exceeded only by heart disease, cancer, and non-motor vehicle accidents.

Figure I shows the age-adjusted death rates for tuberculosis for ten-year age periods from 15 to 65 and for the periods up to 15 and over 65 years of age

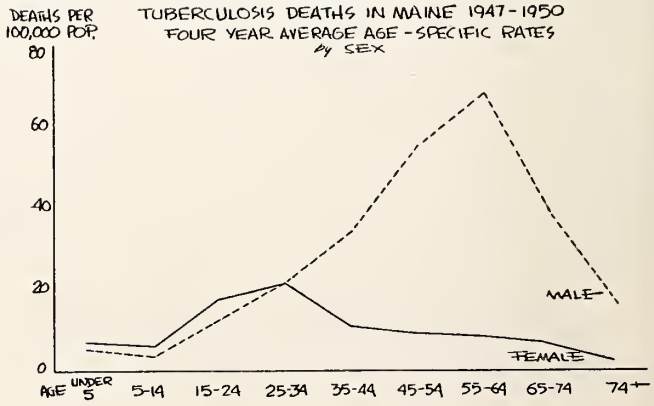
FIGURE I
AGE-SPECIFIC TUBERCULOSIS DEATH RATES
MAINE and UNITED STATES
1950



for both Maine and the United States as a whole for the year 1950. The small number of deaths in Maine allows for wide variations in rates and thus an irregular curve, but in both groups there is a more or less steady rise in rates from youth to old age. The dip for Maine after the age 65 is not readily explainable, but may be due to the small numbers involved.

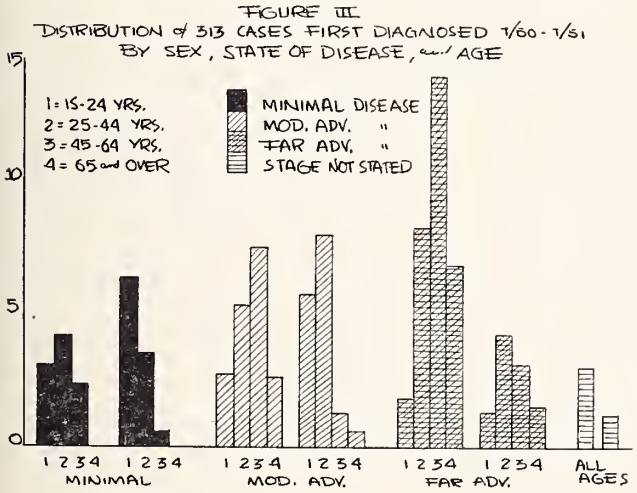
When deaths are separated by sex an entirely different picture is obtained for each individual sex, as shown in Figure II. Here one sees that death rates among women, though slightly higher than among men 35 years of age, reach a peak of 20.8 at this age and fall off to almost nothing (1.7) by 75. In males, on the other hand, there is a steady increase in rate from 15 to 65 and the peak in rates is 30 years later and three times or so greater than in females, 65.8 in the 55-64 year age group.

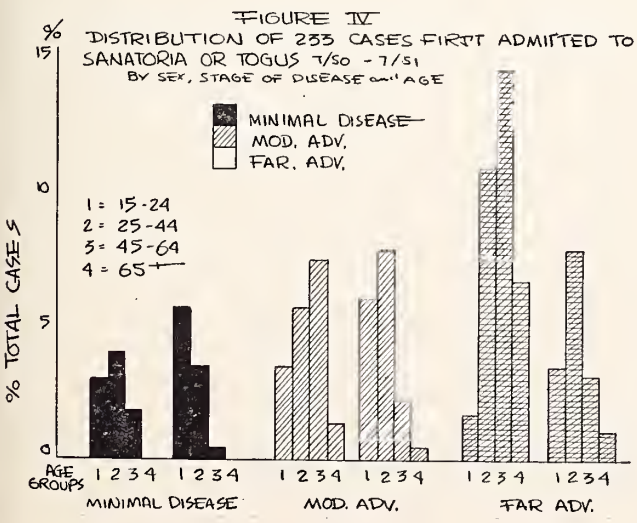
FIGURE II
TUBERCULOSIS DEATHS IN MAINE 1947-1950
FOUR YEAR AVERAGE AGE-SPECIFIC RATES
by SEX



During the study period there were 460 cases of pulmonary tuberculosis reported to the Tuberculosis Registry in the State Bureau of Health. 313 of these were cases of pulmonary tuberculosis of reinfection type in persons 15 years of age and over and not known to have had tuberculosis previous to the study period, — that is, no diagnosis of tuberculosis had been made prior to that time. Figure III shows the distribution of these cases by sex, age, and stage of disease. It is readily seen that a great variation in incidence and stage of disease exists between the sexes and in the various age groups. The highest incidence by far is that of far advanced disease among men in the 45 to 64 year age group, a group of prime economic significances. Among women the greatest incidence is in the 25 to 44 year age group with moderately advanced disease, again a most important socio-economic group. The same distribution was found among the 233 patients admitted to tuberculosis sanatoria or to Togus for the first hospital treatment of their disease, with slight variation (Figure IV).

Figure III and Figure IV—In the paired groups females are on the right.





A statistical analysis of the distribution in the two groups of cases shows that any variations present in these distributions are well within the probability of chance occurrence and are, therefore, of no statistical significance. This was to be expected, since 188 of the cases in both groups were the same individuals. There was no appreciable waiting list and no backlog of patients, of any extent, awaiting admission at the start of the study period. Admission to sanatoria, therefore, was not influenced by age, sex, or stage of disease.

A closer study of the data in Table III reveals that women tend to have a diagnosis made at an earlier age and at a less advanced stage of the disease than do men. This holds true, too, of sanatoria admissions. One would expect that the age at which a diagnosis is made would be younger among women than among men, since the incidence of the disease throughout the country is higher among young women than among young men. It is gratifying to see that only 27.5% of the women were first diagnosed with far advanced disease. This is in sharp contrast to men, 51.2% of whom had far advanced disease when first diagnosed. Improvement in the control of tuberculosis depends to a large extent on bettering our effort to discover and treat the disease in its early stages in young men.

Data for other states, the country, or certain foreign countries show a similar distribution as to sex, age, and stage. This, however, has not always been the case. Figure V shows mortality rates for males and females in Massachusetts for the years 1880, 1910, and 1940.[2] The distribution of deaths for males and females in the year 1880 was practically identical. In 1910 a beginning fall in the rate for women over 30 years of age had taken place. In 1940 curves were similar to those obtained for Maine in 1950. By studying deaths by "cohorts" over a period of years, it is found that each cohort experiences its highest mortality at the ages of highest incidence and that these ages are in the first year and third decade for both males and females, regardless of what cohort is concerned. The high rate of disease in elderly men of today is merely a reflexion of the conditions of three or more decades ago. Could not this change in distribution then be due to the great emphasis early in this century on control of tuberculosis in young women rather than in young men because of the belief, so universally accepted at that time, that the disease was one of young women rather than of young men? Is it not time to increase our effort toward control of the disease in young men, not at the expense of effort on the part of the control in young women, but in addition to that? Only in that way will the incidence of far advanced disease in elderly men be reduced as the years go by. Routine X-rays by the armed forces and by industry will increase the

percentage of men being X-rayed, since more men than women are employed by industry or the armed forces.

Table IV (see Editorial Note) gives the disposition of 313 cases first reported to the Registry between 7/50 and 7/51. There were 192 males and 121 females. 188 were admitted to sanatoria and eighteen more were awaiting admission. Admission of only five were delayed six to nine months; 34 were under the care of private physicians; eleven were hospitalized in out-of-state institutions; 7 were inmates of State institutions. There were 26 who were known first to the Registry through death certificates, 12 others whose disposition was not known to the Registry, and 12 who refused sanatorium care and were not under medical supervision. It probably can be assumed that patients in these last three groups are for the most part not receiving adequate care. In other words, approximately 20% of the cases admitted to the register received inadequate medical supervision even after diagnosis.

In order to determine in what area of the State the problem of tuberculosis control was greatest, data were analysed by place of residence (by county or group of counties). Mortality, morbidity, and positive sputa rates for the counties for 1947-1950, were arranged in decreasing order of mortality (see Figure VI). One would expect close correlation between these three rates if reporting of all three was equally well done.

TABLE III

Distribution of 313 Cases Added to the State Tuberculosis Register and of 233 Cases Admitted to Sanatoria or to Togus, July 1, 1950, to July 1, 1951

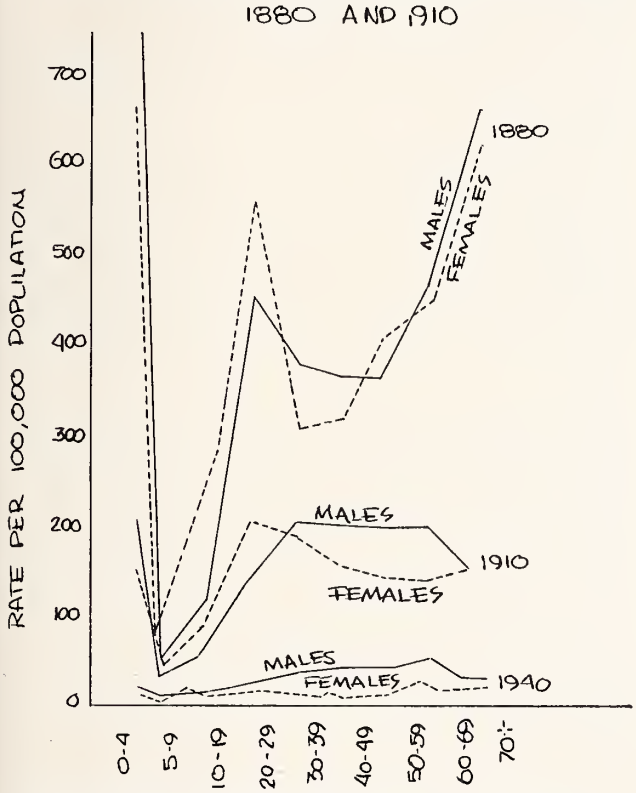
313 Cases Admitted to the Register

Age	No. or %	Males					Females					Total				
		Min.	M.A.	F.A.	Undet.	Total	Min.	M.A.	F.A.	Undet.	Total	Min.	M.A.	F.A.	Undet.	Total
15-24	No.	10	9	6	0	25	20	18	4	0	42	30	27	10	0	67
	% of total	3.2	2.9	1.9	—	8.0	6.4	5.8	1.3	—	13.4	9.6	8.6	3.2	—	21.4
	% of sex	5.2	4.7	3.1	—	13.0	16.7	15.0	3.3	—	35.0	—	—	—	—	—
25-44	No.	13	17	26	1	57	12	25	14	1	52	25	42	40	2	109
	% of total	4.2	5.4	8.3	0.3	18.2	3.6	8.1	4.5	0.3	16.6	8.0	13.4	12.8	0.6	34.9
	% of sex	6.7	8.8	13.5	0.5	29.5	10.0	20.8	11.7	0.8	43.4	—	—	—	—	—
45-64	No.	7	24	44	3	78	2	4	10	0	16	9	28	54	3	94
	% of total	2.3	7.7	14.2	1.0	25.2	0.6	1.3	3.2	—	5.2	2.6	9.0	16.9	1.3	30.0
	% of sex	3.6	12.4	22.8	1.6	40.4	1.7	3.3	8.3	—	13.2	—	—	—	—	—
65 and over	No.	0	8	23	2	33	0	2	5	3	10	0	10	28	5	43
	% of total	—	2.7	7.0	0.6	10.3	—	0.6	1.6	1.0	3.2	—	3.2	9.0	1.6	13.7
	% of sex	—	4.2	11.9	1.0	17.1	—	1.7	4.2	2.5	8.3	—	—	—	—	—
Total	No.	30	58	99	6	193	34	49	33	4	120	64	107	132	10	313
	% of total	9.7	18.5	31.6	1.9	61.6	10.9	15.7	10.5	1.3	38.4	20.4	34.2	42.2	3.2	100.0
	% of sex	15.6	30.1	51.2	3.1	100.0	28.4	40.8	27.5	3.3	100.0	—	—	—	—	—

233 Cases Admitted to Sanatoria or to Togus

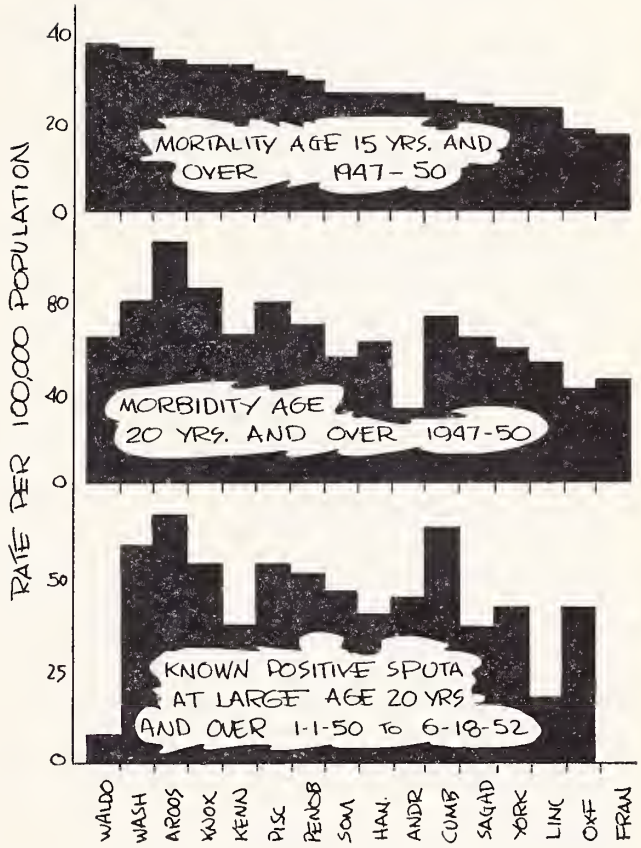
Age	No. or %	Males				Females				Total			
		Min.	M.A.	F.A.	Total	Min.	M.A.	F.A.	Total	Min.	M.A.	F.A.	Total
15-24	No.	7	8	4	19	13	14	8	35	20	22	12	54
	% of total	3.0	3.4	1.7	8.2	5.6	6.0	3.4	15.0	8.6	9.4	5.2	23.2
	% of sex	5.1	5.8	2.9	13.8	13.7	14.7	8.4	36.8	—	—	—	—
25-44	No.	9	13	25	47	8	18	18	44	17	31	43	91
	% of total	3.9	5.6	10.7	20.2	3.4	7.7	7.7	18.9	7.3	13.3	18.5	39.1
	% of sex	6.5	9.4	18.1	34.0	8.4	18.9	18.9	46.3	—	—	—	—
45-64	No.	4	17	33	54	1	5	7	13	5	22	40	67
	% of total	1.7	7.3	14.2	23.2	0.4	2.1	3.0	5.6	2.1	9.5	17.2	28.8
	% of sex	2.9	12.3	23.9	39.2	1.1	5.3	7.4	13.7	—	—	—	—
65 and over	No.	0	3	15	18	0	1	2	3	0	4	17	21
	% of total	—	13	6.4	7.7	—	0.4	0.9	1.3	—	1.7	7.3	9.0
	% of sex	—	2.2	11.8	13.0	—	1.1	2.1	3.2	—	—	—	—
Total	No.	20	41	77	138	22	38	35	95	42	79	112	233
	% of total	8.6	17.6	33.0	59.3	9.4	16.3	15.0	40.7	18.0	34.0	48.0	100.0
	% of sex	14.5	29.7	55.8	100.0	23.2	40.0	36.8	100.0	—	—	—	—

FIGURE V
MASSACHUSETTS TUBERCULOSIS MORTALITY RATES MALE AND FEMALE BY AGE 1880 AND 1910



ADOPTED FROM ROSENAU'S PREVENTIVE MEDICINE (MAXCY) 7TH ED. 1951.

FIGURE VI
COMPARISON of MORTALITY, MORBIDITY and POSITIVE SPUTA RATES by COUNTY



There is some correlation, with notable exceptions, in Waldo and Androscoggin Counties, both of which have far too high a mortality rate in comparison with their morbidity rate, indicating poor reporting (and probably discovery) of new cases. There is only slight correlation between the rates of known cases of positive sputum and morbidity, indicating that the unknown, rather than the known, open case is more important as a source of infection. Known cases are to a large extent graduates of sanatorium care who have learned the rudiments, at least, of proper hygiene and are careful where and when they cough and do not constitute as high a risk to the community as does the undiagnosed case.

The problem of tuberculosis control lies not in the area with the highest incidence but in those areas whose new case rate is low and out of proportion to the mortality rate. Such a condition could conceivably obtain if the population was heavily weighted by old men living alone. This may account for the conditions found in Piscataquis County. A more plausible explanation, however, is that in such situations active cases are not being found and brought under care.

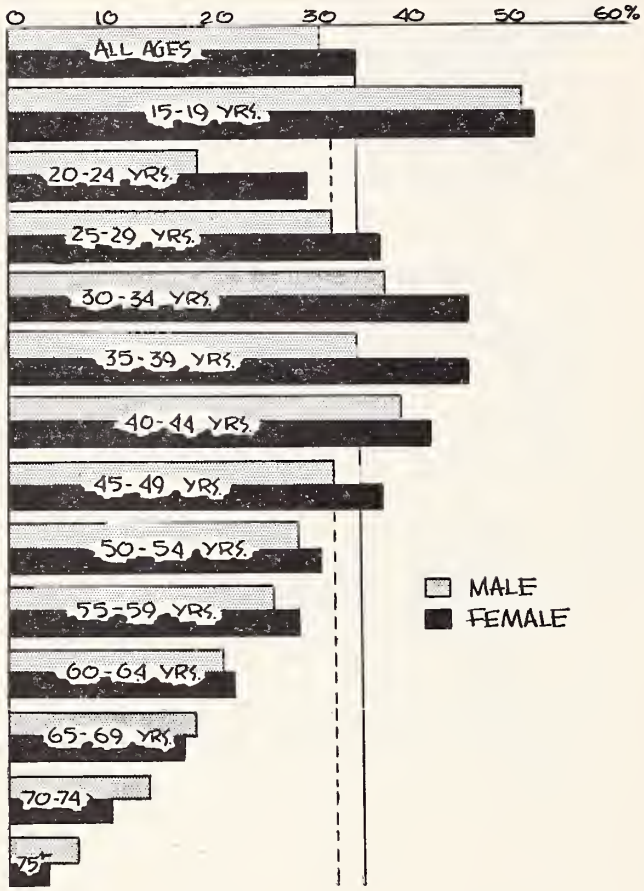
In 1952 a survey of the Lewiston-Auburn area was conducted. The age and sex of each person X-rayed was recorded. Census figures for that area by five-year age groups were available for 1950 and were used to determine what percentage of the population presented themselves to the survey.

Data obtained are presented in Figure VII. Unfortunately, at the time of the actual survey several unfortunate things occurred which cut down on the response. Chief among these was a blizzard which greatly hampered transportation for several days. Women responded better than men, in general, and persons in middle life better than those in the older age groups. The poorest response was in males between 20 and 24 years of age, a most important group to be examined if one wishes to pick up early disease. In only one group were more than 50% of the population X-rayed; this was in the 15 to 19 year group and represented high school students to a large degree.

The length of symptomatic period before diagnosis among 233 cases admitted to sanatoria or to Togus is given in Table VII (see Editorial Note). Stage of disease and types of routine X-ray examination are also given as applicable. For those in whom symptoms had existed for a year or more, responsibility for the delay was laid, in so far as possible from the history, upon the physician or the patient. A period of under four months from the onset of symptoms was considered a reasonable time elapse for so-called "immediate" diagnosis.

FIGURE VII

1952 LEWISTON-AUBURN COMMUNITY SURVEY
PERCENTAGE of POPULATION X-RAYED BY AGE



Sixteen persons who were apparently symptomless and who were picked up by routine X-ray examination speak eloquently for the desirability of frequent, at least yearly, routine examination, especially since seven of these persons were admitted to the sanatorium with minimal disease, and only two with far advanced disease. However, only six of the sixteen were men, whereas six out of ten of the total patients admitted were men. Nearly one-fourth of the patients were diagnosed after a delay of a year or more from onset of symptoms, and more than two-thirds of these were men. The large majority of these patients, as would be expected, reached the sanatorium in a far advanced stage of disease. Among the fourteen women in this group responsibility for the delay in diagnosis was due to failure of seven (50%) of the patients to seek medical advice, whereas in twenty-three of the twenty-nine men this was true. In fifteen of forty patients in whom responsibility for the delay was fairly clear-cut, there appeared to be an error in medical judgment.

Seventy-eight patients were picked up by routine examination, either by virtue of their being contacts of known cases, by community surveys, or by industrial or other routine examination. These were equally divided between the sexes. The distribution by stage of disease, however, represented by this group varied markedly between the sexes. Seventeen of the thirty-nine women had minimal involvement and seven had far advanced disease. Among the men only ten had minimal disease whereas sixteen had far advanced.

The longer the period between onset of symptoms and diagnosis the greater the percentage of far advanced disease, as one would expect. It is most disturbing, however, to see that among those diagnosed within four months twenty-three of the 53 men and seventeen out of the 43 women had far advanced disease.

Eight of the women were pregnant or parturient when admitted to sanatoria; 4, or 50%, with advanced disease. These eight ranged in age from 17 to 35 and comprised nearly 20% of the persons 15-24, slightly more than 10% of those 25-44 years of age. One sees by these figures the importance of routine X-ray examination during pregnancy.

Table VIII (see Editorial Note) shows the disposition of the 233 patients admitted to the sanatoria as of the end of the study period. Thirty-one men and twenty-five women remained in the sanatoria, an additional twelve men and nine women were transferred to out-of-state institutions for further care; thirty-one men and thirty women were discharged with advice, generally as apparently arrested; six women and thirty-five men were discharged by death; and twenty-nine men and twenty-five women were discharged against medical advice. Of the last group nine men and seven women were known to have positive sputa on discharge; ten of the men and four of the women were readmitted. Although the number of women leaving the sanatoria against advice was slightly under that for men, the proportion of women so leaving was greater and the number and proportion of these women who returned for care was less than among men.

It is evident from the above discussion that the usual methods of routine physical examination are inadequate for discovering early tuberculosis unless chest roentgen examination is included. Survey type films may be used unless pathology is expected, when the regulation 14 x 17 film should be employed. These survey films should not be used in children under the age of fifteen. Even the slight expense of these films does not justify their use in the face of the extremely slight yield of positive findings in children under this age. In the case of children, the best means of picking up tuberculosis is through tuberculin skin testing. Regulation sized X-ray films should be taken of all positive reactors.

Tuberculin skin testing, when properly carried out as part of a coördinated program, and on properly

selected groups, is an excellent case-findings instrument. It is often a means of locating a hitherto unknown case of active tuberculosis among the contacts of a child. Contacts of infants and preschool children are confined almost entirely to the family. Routine skin testing in this group may be useful in the discovery of open cases and follow-up of the contacts of a positively reacting child is neither difficult nor expensive. In the case of school children the family constitutes only one-half or less of the contacts of these children, and lessens in importance with increasing age. Follow-up of contacts of positive reactors would be both unsatisfactory and expensive and so skin testing is not recommended as a routine procedure among school children.

Skin testing is, of course, important in determining persons at risk—such as nurses, medical students, and attendants in tubercular and mental sanatoria where the chance of exposure to tuberculous infection is great.

BCG vaccination is not recommended for general use at this time for several reasons: it interferes with skin testing programs; its efficacy in long-term protection is not known, and its use may create a sense of false security and thus a general let-down in other forms of control.

Adequate control of tuberculosis presents several distinct problems. First, there is the problem of convincing both the public and the medical profession that early tuberculosis, tuberculosis in its most readily treatable form, is symptomless and requires routine X-ray examination of the lungs for diagnosis. This X-ray examination need not be expensive. The 4 x 5 survey film is adequate for screening out negative chests. Only those showing pathology need more refined methods of diagnosis — regulation 14 x 17 films and sputum cultures.

Second, periodic routine X-ray examination of nearer 100% rather than 50% of the adult population should be the goal. This can be accomplished by a) stimulating interest in "birthday" examinations, including survey chest films, by private practitioners; b) better coverage of general hospital admissions and other high incidence groups either ill or apparently well; c) perhaps some new approaches such as universal pre-insurance X-ray or periodic X-rays for all life insurance policyholders; d) yearly survey chest films as a routine part of industrial health insurance plans; e) survey film used in yearly school examination for all students 15 years of age or older, who are known to have positive tuberculin reactions; f) inclusion of survey chest film at least in all routine examinations; g) better utilization of community survey facilities. The rate of tuberculosis morbidity among patients admitted to hospitals is said to be approximately eight times that in the general population. Routine survey chest films of all hospital and clinic admissions (yearly) should bring to light many unsuspected cases of active disease for treatment and protection of hospital personnel. Many hospitals require routine blood and urine examinations, including blood serology; it is reasonable to expect the adoption of a survey chest film as a routine procedure.

Third, once a case is found every effort should be expended toward securing prompt and adequate care. This means prompt admission to a sanatorium, and residence there until it is considered wise to return the patient to society. It also means prompt and prolonged follow-up of all contacts and faithful check-up of the discharged patient at intervals throughout his life. Effective therapy may include a large job of rehabilitation, and it always means a great deal of psychotherapy and wise counselling throughout the period of treatment and convalescence.

Each patient should be taught to view his case as he would were it a broken leg — as a condition requiring long term treatment without short-cuts, and one in which the danger of a repeated break lessens with the length of inactivity. This lesson must be taught from the time of the first suspicion of the disease throughout life as a concomitant occupational counselling and rehabilitation become a part of treatment. In Maine there are available approximately five hundred beds for the care of the tuberculous patient when all the beds in State and private sanatoria and those set aside for the care of tuberculosis in Togus are considered. This includes the beds set aside for children at Northern Maine Sanatorium. At the present rate of discovery of new cases this number of beds should be adequate; it also falls within the requirements of the old formula of 3-4 beds per tuberculosis death. However, with fewer tuberculous patients dying of tuberculosis and with a program geared to pick up fully twice as many cases per year as previously, this number of beds is not adequate. Shortage of beds becomes an increasingly greater problem because, with improved methods of treatment, hospitalization time is lengthened and because rehabilitation of the patient with minimal disease often takes longer than the progress of the far advanced case to death. Instead of cutting down on the number of hospital beds, such as has occurred in a neighboring state with the announcement of the new nicatinamide therapy, we should prepare for a larger number of admissions, at least for a few years.

It is my prediction that, with the hope of eventual cure of their disease through drug therapy or surgery, or both, patients will be willing to undergo treatment far more readily than they do now when treatment may hold out only the hope of possible arrest, if even that, in many cases. Such a change in attitude toward treatment could increase the demand for beds. Let us

not be short-sighted and adapt our bed capacity to the falling mortality rate until a fall in true morbidity rates justifies such a move. Let us continue with ever increasing zeal to track down and treat tuberculosis as long as the disease remains in our midst.

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THE VAGINAL SMEAR: A GUIDE TO DIAGNOSIS, PROGNOSIS AND TREATMENT

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It has now been well established that the study of exfoliated cells of the uterus and vagina fills a need for an objective guide in the management of problems other than malignancy. The purpose of this presentation is to foster universal interest in the routine use of vaginal smears.

Without equivocation office study of vaginal smears for cancer cannot be condoned, since that is a specialized study in itself, but the clinician, with the advantage of having examined the patient, can have an invaluable aid to the management of many other gynecological conditions. Being "smear conscious," the practitioner will tend to send out more smears for cancer study and, in accordance with his interest and experience, can study similar smears for information pertaining to infection, menopause, fertility, endocrine therapy, irradiation therapy, and pregnancy.

Examination of cellular exudates dates back to the 19th century when sputum, urine, pleural, and peritoneal exudates were studied. The study of vaginal cytology has progressed most rapidly because cells in vaginal fluid appear less degenerated and in greater concentration than cells from other exudates. In modern research Papanicolaou's first paper, published in 1928, was preceded by years of observation concerning response to estrogen. His study of malignancy soon followed and has been taken up by many other researchers. Today, vaginal, cervical, and endometrial smears are being used for diagnosis, adjunct to diagnosis, prognosis, and therapeutic guides. Though techniques vary moderately, interpretations, classifications, and statistical compilations usually coincide.

The technique of preparing a vaginal smear varies primarily in the method of obtaining material from the vagina or cervix. However, it seems that an ordinary, dry, sterile cotton swab twirled in the external os and another dipped in the posterior fornix will produce a representative sampling.

The patient is advised to take no douche and no local medication for twelve hours before examination. A non-lubricated speculum is inserted, and the sample is taken as described. The material is smeared thinly on a slide which is immediately dropped into a mixture of equal parts of 95 per cent alcohol and ether,[1] or alcohol alone if ether is not available (slides may be kept apart by attaching paper clips). After fixing for at least thirty minutes, the chosen staining technique may be used. To be sent out for study, the slide may be smeared with glycerine or sent dry. In addition to smears taken as mentioned, they may be taken from suspicious sites of the cervix as indicated. In this connection the Schiller test may be of value. Schiller's solution (containing iodine) reacts with normal glycogen-containing cells to produce a mahogany brown color. Glycogen-free areas will appear blanched, indicating the site to be sampled. The Schiller test is only a guide, and it cannot be regarded as being diagnostic, since benign lesions will produce a "positive" Schiller test. Here again an assortment of swabs, spatulas, and cannulas is suggested. How one obtains a specimen is unimportant, as long as a representative smear can be demonstrated.

Some of the stains in use are the Papanicolaou,[2] Shorr, Mack, silver carbamate, and hematoxylin and eosin. Of these the most popular for the diagnosis of malignancy is the Pap, and for demonstration of cyclic variation or hormonal response, the Shorr stain is popular.

Many cell types are encountered in the vaginal smear, some of which do not originate in the mucosa of the genital tract. Familiarity with the common cell types and conditions under which they are seen is a primary requisite for evaluation.[2, 3]

The presence of *polymorphonuclears* is influenced by certain bacteria, mucous, coitus, erosions, vaginitis, and trichomonas. *Erythrocytes* are seen during menstruation, with erosions and trauma said by Meigs to be present in smears positive for malignancy. *Histiocytes and giant cell histiocytes* are found in the presence of both infection and malignancy but are not pathognomonic. *Endometrial cells* are commonly

prominent only on some days of the menses. *Inner basal type cells* are seen in estrogen deficiencies. *Outer basal type cells* appear in estrogen deficiencies but in the normal cycle also. *Intermediate cells* appear similar to outer basal type cells. *Superficial cornified and precornified cells* are seen throughout the normal cycle. The varied chronological (in terms of cycle or age) and histological appearance and staining characteristics provide the criteria by which one is guided. Generally, one expects to see cells from the deeper mucosal layers staining basophilic and the superficial cells, acidophilic.

The orderly interpretation of smears may be included under three general headings: endocrine dyscrasias, malignancy, and a miscellaneous group.[4]

Endocrine Dyscrasias. Endocrine dyscrasias primarily includes conditions arising from estrogen disturbances. Young women with amenorrhea or hypomenorrhea may have smears showing slight estrogen deficiency. This is characterized by the appearance of cells from the intermediate layers and a disproportionate increase in basophilic staining. Menopausal and post-menopausal cases may show similar gradations in the smear. Castrates, seniles, and severe menopausals may show a marked implied deficiency in the smear.[5]

Qualification of statement in grading estrogen response is necessary, based on the knowledge that the vaginal cellular reaction is not purely a response to ovarian hormones alone. However, it is not within the scope of this paper to discuss other endocrines, particularly the adrenal. This also poses no serious objection to the use of smears as a guide.

Hormone withdrawal or opposition by progesterone may produce the picture of regression. This is seen as a characteristic curling or folding of the edges of the superficial type cells. During pregnancy, a trend to cornification may signify an impending abortion. If 20-30 per cent of the cells are cornified, therapy is started. A change to complete cornification with therapy may mean a missed abortion.[10]

Malignancy. The study of malignancy is the most dramatic phase of vaginal cytology, most investigation being devoted to this subject. Of all malignancy in women, cancer of the cervix and corpus represents 30 per cent of the total in a ratio of 5:1 respectively. Most of this cancer has heretofore been discovered in the fifth decade of life, and roughly 10 per cent of these have been operable when diagnosed. Consequently, over 17,000 women have died each year from cancer of the uterus.[1]

Usually, bleeding is the first symptom of cancer of the uterus. It is estimated that after the onset of bleeding the patient's chance for cure decreases approximately 3 per cent each week before treatment is instituted.[6] From these few observations it is evident that early diagnosis is imperative. In diagnosing by smear technique, it has been demonstrated that the average age of women with pre-invasive cancer is 37.7 years. This is in contrast to average age 40.8 years by biopsy and average age 49 for the appearance of clinically recognizable cancer.[7] On this basis it follows that pre-invasive or carcinoma *in situ* may exist for many years before becoming obvious by symptoms or gross appearance. The diagnosis of this early lesion is best made by routine screening with smears, since the lesion is asymptomatic and invisible to the naked eye. Such a diagnosis, confirmed by biopsy, may lead to cure by routine surgical procedure. The smear, or cellular diagnosis, has been checked against the biopsy or tissue diagnosis with reported accuracy of about 95 per cent.[8] However, it cannot be emphasized too strongly that the vaginal smear should always be confirmed by biopsy before operation is justified. Adequate biopsy, probably of the circular type, will corroborate positive smears and negate the false positives. As previously mentioned, Schiller's solution may be used as a guide for biopsy, but here it must be remembered that Schiller positive areas may be produced by trauma, leukoplakia, erosion, and eversion. Therefore, the circular type biopsy is advised. Smears examined for malignancy fall into an arbitrarily arranged classification. This includes various degrees of Negative, Suspicious, and Positive.[1,2] For example, a smear may be atypical but not abnormal and require no further investigation. It may have a number of abnormal cells present requiring periodic re-examination of the patient. This is a suspicious smear. The so-called pre-cancer cell complex is included in this group. Positive smears are divided into those having a fair number of cancer cells or a large number of cancer cells. The number of malignant cells in a smear may indicate the amount of exfoliation and rate of growth of the lesion. A positive smear of an early lesion confirmed by biopsy usually reveals a malignancy which is included in one of three pathological groups. These are all within the definition of the international classification of a Stage 0 or 1 cancer of the cervix. Group A includes the pre-invasive carcinoma or carcinoma *in situ*. This has sometimes been identified as Bowen's disease of the cervix. Group B, more progressive, includes the covert or invasive carcinoma. Here the lesion has penetrated the basement membrane. In Group C is the lesion which is visible, or the overt carcinoma.[7]

In observing malignant smears, many variations from the normal may be seen. There are usually many erythrocytes present. The nuclei of the malignant cells are disproportionately large, and irregular in size and shape with increased nuclear material. The chromatin may be coarse, increased in amount, hyperchromatic, and granular. Mitoses are rarely

seen. There is relatively less cytoplasm and the cell borders are indistinct. In groupings inequality of cell size may be noted.[3, 9] Some of the grossly irregular cell types have been given descriptive names such as fiber, tadpole, spindle, angular, polygonal, ameboid, and tumor giant cell.

Briefly, the various types of malignancy encountered are usually some grade of squamous carcinoma of the cervix or adenomatous carcinoma of the endometrium. Adenocarcinoma of the cervix is seen in a small percentage of cases, and adenoacanthoma, a tumor having both squamous and adenomatous elements, may originate in cervix or endometrium. Most uterine malignancies occur at the squamo-columnar junction of the cervix, which is just inside the external os where a small ulcerative lesion may go unnoticed. Sarcomas comprise about 4 per cent of uterine cancers, and diagnosis by smear is exceptional.[9]

Miscellaneous. There is a miscellaneous group of conditions in which vaginal smears may be used to advantage. Various infections may be noted by a change in the vaginal flora. Fungous infections are readily observed. Trichomonas vaginalis, when absent from the hanging drop preparation, may be observed in the smear as an amorphous blob. It is sometimes possible to diagnose pregnancy after only two to four weeks gestation by the presence of the so-called navicular cells. Evidence of impending abortion may be seen in a sudden trend to cornification. If 20-30 per cent of cells are cornified, substitution therapy may be started. With therapy a change to complete cornification may signify a missed abortion.[10] During infertility investigation the cervical smear may be used as a guide for coitus or artificial insemination by helping to determine the time of ovulation. The effect of radiation therapy may be followed by vaginal smear. A delay in disappearance of malignant cells is supposed to indicate a radio-resistant tumor.

Estrogen therapy should be followed by smear for two reasons. First, an estrogen response may be observed, and secondly, the appearance of abnormal cells may demand cessation of therapy. Whether prolonged administration of estrogen may cause cancer is still a moot question. Here the smear is a valuable guide to the physician.

Summary and Conclusion

1. Representative smears are easily taken.
2. Simple staining techniques are available for office use.
3. Although cancer diagnosis should be made in the laboratory by trained personnel, the vaginal smear may be studied in the office as an adjunct concerned with estrogen dyscrasias, estrogen therapy, sterility problems, radiation therapy, and pregnancy (diagnosis and threatened abortion).
4. Frequent use of the smear leads to more frequent submission for laboratory cancer studies.
5. Early diagnosis of genital cancer by vaginal smear would lead to early treatment and reduction from present annual mortality of 17,000 women from genital cancer.
6. The practicality and versatility of the vaginal smear is reviewed, and it is urged that physicians including obstetrics and gynecology in their practice familiarize with and employ the vaginal smear frequently.

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CENTENNIAL SESSION — PORTLAND — JUNE 21-24, 1953

Historical Exhibit

Space has been reserved for an Historical Exhibit at the Centennial Session. Do you have anything of historical interest for display at this exhibit? If so, please communicate with Dr. Thomas A. Foster, Chairman of the Historical Exhibit Committee, c/o Maine Medical Association, 142 High Street, Portland, Maine, at your earliest convenience. The telephone number is Portland 3-1331.

MANAGEMENT OF THE THIRD STAGE OF LABOR*

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The third stage of labor has become increasingly important in recent years, for the very good reason that it is one of the chief sources of obstetrical death. In the last 14 years, 19 per cent of the maternal deaths at the New York Lying-In Hospital were due to post-partum hemorrhage.[1] In the United States in 1948 there were 4,122 maternal deaths, of which 33 per cent were due to hemorrhage, taking predominance over septicemia with 29 per cent and toxemia with 28 per cent.[2] It is therefore worthwhile to re-examine the third stage of labor with particular attention to ways of reducing blood loss.

Vant[3] points out that if blood loss is to be reduced to a minimum, five rules must be followed:

1. Avoidance of excessive prenatal weight gain.
2. Prevention of anemia in labor.
3. Avoidance of traumatic deliveries by more careful estimation of pelvic capacity.
4. Avoidance of oversedation during labor.
5. More active management of the third stage of labor.

The purpose of this paper is to stress the need for active management of the third stage, and to discuss the alternate methods for doing this. Until recently, doing anything to expedite the third stage was criticized as meddlesome obstetrics and unwarranted intervention. Today with routine use of analgesics during labor, and anesthesia during the majority of deliveries, this viewpoint has changed. Both sedation and anesthesia depress normal uterine tone and contractions, which are essential for the separation of the placenta and control of blood loss. Therefore if we are to make use of modern regimes of pain relief, we must also accept the necessity for active measures to control third-stage blood loss. This concept has reduced blood loss to far less than that which occurs by wholly natural processes.

Oxytocics

Oxytocics play an essential part in active management, and although there is general agreement on their value, several important variations are in use.

Pituitrin, which is perhaps the most commonly used oxytocic, is composed of an oxytocic principle, pitocin, and a pressor principle, pitressin. Its effect on the uterus arises from the pitocin fraction, which increases the frequency and amplitude of the uterine contractions, which alternate with normal periods of relative relaxation. Due to the pitressin fraction, which constricts capillaries and small arterioles, pituitrin has the highest incidence of side-reactions among the oxytocics, characterized by pallor and a rise in blood pressure, or a marked fall in blood pressure through its effect on the heart. It causes constriction of the coronary arteries and a decrease in cardiac output, which further reduces coronary flow, resulting in myocardial asphyxia, possibly leading to fatal arrhythmia. This danger is greatest when pituitrin is used in conjunction with cyclopropane anesthesia, since the two act synergistically to produce both hypertension and arrhythmia.[4]

Commercial pitocin is the purified oxytocic principle of pituitrin, contaminated by not more than 5 per cent pitressin. Its oxytocic effect is entirely similar to that of pituitrin, while being free of the dangers of pitressin. It is usually given intramuscularly or subcutaneously, but it can be given in dilution by the intravenous route. It has no effect when given orally. It increases the frequency and amplitude of the contractions of the fundus, while exerting no effect on the cervix. The effect begins in three to five minutes, lasting fifteen to twenty minutes. Pitocin may safely be given to hypertensives in whom pituitrin is contraindicated. In normal post-partum adults who have not been sedated, transient dizziness, nausea, flushing, and a rise in blood pressure have been described, but all such side-effects are mild and clinically insignificant.

The alkaloids of ergot are an entirely separate, unrelated group of oxytocics. Although there are a large number of drugs in this group that have been used at one time or another, there is uniform agreement that ergonovine maleate, or commercial ergotrate, is the drug of choice. Its effect in usual therapeutic doses is almost wholly limited to its specific effect upon the uterus. It differs from pituitrin and pitocin in that it produces a single, sustained uterine contraction of spastic quality rather than alternating contraction and relaxation. This contraction first involves the fundus, and shortly thereafter also contracts the cervix. When ergonovine is given intravenously, contraction occurs almost immediately, and after either intramuscular or oral administration, within a few minutes. Its action persists for several hours. Although it may produce a slight rise in blood pressure due to peripheral vasoconstriction and occasionally a slowing of the heart rate, neither is of clinical significance. A comparative study made by Dieckmann[5] showed the

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incidence of side-effects from ergonovine to be less than half the incidence from pituitrin and he concluded that there were no contraindications to its intravenous use. Ergot poisoning has never been described following the use of ergonovine.

From a pharmacological point of view, then, there are two entirely safe, effective oxytocics available: pitocin, which may be given intramuscularly, subcutaneously or intravenously, whose action begins within a few minutes causing increased intermittent contractions of the fundus; and ergonovine, which may be given intravenously, intramuscularly or orally, and which acts almost immediately and persists for a period of several hours, causing a sustained, continuous contraction of both fundus and cervix.

Conduct of Normal Third Stage

In discussing the management of the third stage it is convenient to consider the subject according to whether the third stage is normal or abnormal. A routine should be selected for normal third-stage management which satisfies the objective of reduction of blood loss by the use of safe drugs and procedures. Two such routines have stood the test of time and are in common use.

In the first of these, 1 c.c. of pituitrin, or preferably pitocin, is given intramuscularly at the end of the second stage. Within five to ten minutes the normal uterine contractions, aided by pitocin, separate the placenta. This results from the shearing action of the contractions without the formation of a retroplacental hemorrhage, which was once thought to be the mechanism of separation. Further contractions then pass the placenta into the vagina, as is recognized by the change in shape from a flat to a globular fundus. No attempts should be made to deliver the placenta until this time, when it can be gently expressed without forcible massage and without allowing the uterus to descend into the pelvis, which greatly increases bleeding. Following delivery of the placenta, 1/320th gr. of ergonovine is given intramuscularly, to maintain a continuously contracted uterus for several hours.

The alternate and newer method requires closer attention to the uterus. Ergonovine, 1/320 gr. is given intravenously when the anterior shoulder of the infant is born. Further delivery is then delayed for about 60 seconds, during which time the mucus is aspirated from the infant's nose and throat. When delivery has been completed the fundus will be found firmly contracted and the placenta separated. It should be immediately delivered by gentle expression. If for any reason there is a delay of several minutes following fundal contraction, the cervix also contracts and will occasionally trap a separated but retained placenta. If this occurs, nothing is to be gained by further delay, since ergonovine produces a continuous contraction, and placental delivery must be accomplished by digitally dilating the cervix, which instantly allows the placenta to escape into the open hand.

Although other variations in regime can be used, these two routines are in the commonest use and serve to demonstrate the physiologic principles on which they depend. Actual amounts of blood loss are difficult to measure due to dilution with amniotic fluid, making a comparison of statistics difficult. However, each series confirms the fact that blood loss is greatest when no oxytocic is used, and least when intravenous ergonovine is employed, with intramuscular pitocin and ergonovine ranking reasonably close to intravenous ergonovine.[6,7] The decision as to which oxytocic regime is to be employed is therefore largely a matter of individual choice and convenience.

Conduct of Third Stage With Complications

Abnormalities of the third stage develop without warning, and no previous selection of patients who may develop such difficulties can be made. Nearly all complications arise from various combinations of excess bleeding and retention of the placenta. Bleeding occurring either before or immediately following placental delivery is the most urgently dangerous situation which may arise. Excess bleeding is generally defined as 500 c.c. or more. It cannot be overemphasized, however, that one should not wait until this amount of blood has been lost before actively intervening. As we all know, a normal third stage is characterized by only the smallest amount of bloody flow, not all of which is pure blood. Furthermore, there is a universal tendency to underestimate the actual amount of blood loss.[1] Therefore, at the first sign of more than average bleeding we should be sensitized to act immediately in its prevention and correction. Prompt and liberal blood replacement should never be delayed and is an essential part of the treatment of all cases of bleeding.

If the placenta has not been delivered, this should be accomplished at once by manual removal, pausing only to inspect the vagina and cervix for lacerations as a source of bleeding. The placenta should be removed intact and not piecemeal, and the uterine cavity should likewise be inspected to confirm complete removal and the absence of uterine rupture. By prompt manual removal we not only conserve blood but are making use of all our possible advantages; for the patient at the onset of bleeding is at that moment in better physical condition than she will ever be until the bleeding has been stopped. Immediate intervention avoids the many deadly complications of shock, prolonged anesthesia and potential infection

that increases with every minute we allow to slip by while indulging in passive expectancy. The dangers of such intervention per-se are practically nil.[8] Not many years ago manual removal was considered a dangerous last-resort measure. This is still true, but when used as a first resort it is an entirely benign procedure. The dangers of late removal have been so firmly rooted in the obstetrical teachings of the past that the difference between early and late removal needs to be constantly emphasized. The difference is often literally that between an uneventful postpartum course and death on the table. Many series have recently been reported, all agreeing with the conclusion that the dangers of manual removal are solely due to delay and the poor condition of the patient, and not to the procedure itself.[1, 3, 8, 9, 10, 11] For example, one series[11] included over 1600 cases in which manual removal was done as a routine procedure without specific indication, and no mortality or morbidity occurred due to the removal.

A word in memoriam should also be spoken at this point for the Credé maneuver. This time honored, so-called conservative procedure is distinctly more dangerous than early manual removal and is best considered obsolete.[11] Any violent massaging or compressing of the uterus favors uterine relaxation and further bleeding, and in itself promotes shock, while by no means assuring delivery of the placenta, which may eventually have to be removed manually at great risk.

Excess bleeding immediately following delivery of the placenta is a slightly different problem. The first consideration should be the uterine tone. If atony exists, additional intravenous ergonovine and intramuscular pitocin should be given, while holding the uterus well out of the pelvis at all times. In the rare cases in which the uterus remains atonic and bleeding continues, the uterus should be explored for rupture or retained fragments, and if neither are present a tight intrauterine pack should be inserted for twelve to twenty-four hours. Bleeding in the presence of good uterine tone calls for examination of the vagina and cervix for lacerations. Occasionally cases of bleeding are troublesome because of a tendency to repeated intermittent atony. These cases can be controlled by giving parenteral fluids to which has been added 10 units of pitocin or 1/320 gr. of ergonovine, thus supplying a constant source of oxytocic over a prolonged period.

The second problem is that of retained placenta without excess bleeding. This may occur under three conditions:

1. Separated but retained placenta because of cervical contraction or obstruction.
2. Complete or partial placental adherence.
3. Placenta accreta.

The problem of treatment in this group is centered around how long one should delay manual removal when excess bleeding is not present. With realization of the safety of early manual removal contrasted with the dangers of any forceful uterine massage or of the Credé maneuver has come a change in the waiting period advocated. Formerly a waiting period of two hours was considered reasonable so long as there was no excess blood loss. Recent opinions seldom advocate longer than one-half hour,[10] and some writers including Greenhill, resort to removal at the end of fifteen minutes. Actually, little is to be gained by waiting any specified limit of time beyond the ten- to fifteen-minute period of normal separation and expulsion. The only exception to such removal is placenta accreta, which requires hysterectomy if more than one-third of the placental surface is abnormally attached.

Summary

In conclusion I should like to point out how simplified the third stage has become when actively managed, compared to the wide variety of treatments and secondary complications which arise from a policy of passive expectancy. Two factors make this possible: first, safe, dependable oxytocics; second, the realization that manual removal not only solves the problem but when done early is harmless. It would be fair to say that oxytocics are the best solution for the conduct of all normal third stages, while manual removal plus additional oxytocics will solve most of the abnormal third-stage complications, except lacerations.

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Discussion

Question: Do you use antibiotics prophylactically if you do a manual removal?

Dr. Coulton: If there has been a long labor or difficult operative delivery, antibiotic therapy should be instituted at once. Without such complications, antibiotics are optional. Morbidity is surprisingly rare following early manual removal due to the cleansing action of the outwardly flowing lochia. I employ antibiotics actually in about one-third of manual removal cases.

Question: Is anesthesia necessary for manual removal?

Continued on page 82

THE RADIOLOGICAL ASPECTS OF HEMORRHAGE FROM PEPTIC ULCER

Jack Spencer, M. D., Portland, Maine*

The management of cases of massive gastrointestinal hemorrhage is recognized as demanding the combined efforts of both the internist and the surgeon. Many hospitals have a special group representing the medical and surgical services in the treatment of these cases. Recently the Boston City Hospital group reported 52 cases of massive gastrointestinal hemorrhage which were subjected to upper gastrointestinal radiological studies within 24 hours of admission. They reported four patients who experienced a definite fall in blood pressure and other evidence of recurrent hemorrhage following the X-ray studies. Crohn and Janowitz (Mt. Sinai Hospital, New York) strongly discourage radiological examinations in cases of recent bleeding peptic ulcers. There are two extremes related to the use of gastrointestinal studies with barium meal in cases of upper gastrointestinal hemorrhage. To review our own handling of massive bleeding in regard to the timing of roentgenological examinations seemed desirable.

Material

The time interval between the admission of cases of duodenal ulcer or gastric ulcers and the radiological studies on such cases has been evaluated. The records of 136 cases of peptic ulcers were studied. Of this group there were 59 cases admitted specifically due to gastrointestinal hemorrhage, diagnosed bleeding peptic ulcer and had barium meal studies during hospitalization (Table I).

There were 40 cases with a red blood cell count of more than 3 million on admission and of these, eight had gastrointestinal studies made within five days of admission; three of this group were treated surgically. There were 19 cases which on admission had a red blood cell count of less than 3 million and of these, six had gastrointestinal studies made within five days of admission. Only one case in this group was treated surgically.

There were two cases with the clinical diagnosis of duodenal ulcer that had radiological studies without palpation on the first day of admission and no ulcer was found. However, on repeat examination on the eleventh day evidence of an ulcer was demonstrated.

There was one case with the clinical diagnosis of duodenal ulcer, studied radiologically eleven days after admission without demonstration of an ulcer. Another case was studied fluoroscopically without palpation on the fifth day after admission, in this case, an ulcer was not identified, therefore, light palpation was attempted and within six hours the patient showed evidence of a gastrointestinal hemorrhage. In this group with a mild hemorrhage 23 of the 40 had gastrointestinal studies within 12 days after admission. In the group with severe hemorrhage 13 of the 19 had gastrointestinal studies within 12 days of admission. In the entire group there were 5 that had gastrointestinal studies on the first day of admission.

The group of cases with upper gastrointestinal hemorrhage due to varices of the esophagus has not been included in this study. In cases with clinical or laboratory evidence of cirrhosis and probable varices, the esophagus can be studied quickly fluoroscopically with barium paste in the supine position with negligible risk of aggravating the hemorrhage.

TABLE I

Analysis of Cases with Gastrointestinal Bleeding

I	Peptic Ulcer with Acute Hemorrhage:	
	R. B. C. above 3 million	40
	A. Barium Meal Studies	
	1. Within 5 days of admission	8
	Duodenal Ulcer	6
	Gastric Ulcer	2
	Medical treatment	5
	Surgical treatment	3
	2. Within 6 to 12 days of admission	15
	Duodenal Ulcer	14
	Gastric Ulcer	1
	Medical treatment	12
	Surgical treatment	3
	3. Within 12 or more days of admission	17
II	Peptic Ulcer with Acute Hemorrhage:	
	R. B. C. less than 3 million	19
	A. Barium Meal Studies	
	1. Within 5 days of admission	6
	Duodenal Ulcer	5
	Gastric Ulcer	1
	Medical treatment	5
	Surgical treatment	1
	2. Within 6 to 12 days of admission	7
	Duodenal Ulcer	7
	Gastric Ulcer	0
	Medical treatment	7
	Surgical treatment	0
	3. Within 12 or more days of admission	6

Procedure

Radiographic studies on cases with recent gastrointestinal hemorrhage before time has elapsed to allow healing has been done with fluoroscopy and the extent of the examination has varied with the individual case depending upon the clinical findings and severity of the hemorrhage.

The esophagus only can be studied for a question of varices with the patient in the supine position, using

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barium paste and observing fluoroscopically the passage of the paste into the stomach, particularly in the oblique views. Adequate films of the barium filled esophagus are necessary.

A study of the stomach and duodenum is made without palpation of the abdomen. It is necessary to place the patient in the supine position first and study the rugae with a few swallows of barium solution. By rotating the patient some barium can be studied in the duodenum partially filled with barium and gas (Hampton Position). Then, in the prone position the stomach is filled sufficiently to study the outline and the barium filled duodenum is observed. If this procedure is to be carried out spot films during fluoroscopy are very important as an aid in demonstrating the anatomic lesion.

The importance of limiting the time this examination takes cannot be over emphasized. The total fluoroscopic time should be about 5 minutes and certainly should be discontinued after 10 minutes.

Discussion

The analysis of this group of cases seems to illustrate the policy of the staff at the Maine General Hospital. There were 13 cases of upper gastrointestinal hemorrhage from peptic ulcer not studied by barium meal due to that fact that a previous diagnosis had been established or surgery was done without radiographic studies. There were 5 cases studied by fluoroscopy and barium sulphate meal, without palpation, on the first day of admission. Fifty-seven point five percent (23 of 40) of the cases of mild hemorrhage were studied within 12 days of admission. In the cases with severe hemorrhage 68.4 percent (13 of 19) were studied within 12 days of admission.

It has been our feeling that barium sulphate meal given during fluoroscopy without palpation and handling of the patient with the greatest possible care is not without danger of starting another hemorrhage when undertaken in cases with acute hemorrhage from a peptic ulcer. The fact that Ritvo and associates experienced 4 recurrent hemorrhages in 52 cases reported and Heuer reports 3 cases with fatal secondary hemorrhage following barium sulphate meal studies should be sufficient to prompt some degree of caution in carrying out this examination too early following an episode of severe upper gastrointestinal hemorrhage. However there are selected cases presenting a management problem and early fluoroscopy with barium meal studies is justified, attempting to demonstrate the anatomical lesion.

Since Hampton, in 1937, reported on the relative safeness of the radiological examination with barium meal studies shortly after gastrointestinal hemorrhage has stopped, we have not hesitated in performing such examinations. It has been our policy at the Maine General Hospital to rely on good clinical judgement and common sense in the selection of such cases for immediate radiological examinations. The variation in the time of gastrointestinal studies in this group of cases illustrates the importance of individual evaluation. No set rules as to when to have barium meal studies can be applied to the individual problem. Obviously, patients in shock should not be subjected to this examination, and it is felt that a reasonable wait of 24 to 48 hours should elapse after an acute massive hemorrhage before such an examination is undertaken. Surely a patient in too poor a condition to be operated on should not be subjected to radiological studies with a barium meal.

The following case illustrates arterial bleeding which may require immediate surgery and the examination can be done just prior to surgery.

Case History: White male, age 25, admitted to hospital with history of acute episode of hemorrhage with vomiting of blood. Observed for five days under medical treatment with two episodes of acute hemorrhage.

Surgical intervention was deemed necessary and the patient was given a barium meal without palpation. A large, lesser curvature, gastric ulcer was demonstrated. Specimen showed an eroded blood vessel at the base of the ulcer.

Summary

I The wide range of opinion as to when upper gastrointestinal studies should be done in recent hemorrhage from peptic ulcer is presented.

II The time interval between hospital admission and barium meal study is analyzed. Fifty-seven point five percent of the mild cases of hemorrhage and sixty-eight point four percent of the cases of severe hemorrhage had gastrointestinal studies within 12 days of admission. Five cases were studied by barium meal and fluoroscopy, without palpation, on the first day of admission.

III The procedure as to radiographic and fluoroscopic studies is outlined.

IV The necessity of carefully selecting cases for upper gastrointestinal studies after a recent hemorrhage is stressed.

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CASE HISTORY OF A NEAR SUICIDE

Nicholas Fish, M. D., Portland, Maine

Dr. Stearns' article on "Cases of Probable Suicide in Young Persons without Obvious Motive" was of great interest to me. It reminds me of an article by Dr. Sandor Ferenczi in which he states, "The conscious confessions of criminals and a statement of the circumstances of the crime be it ever so complete will never sufficiently explain why the individual in the given circumstances had to commit just that act. External circumstances very often do not motivate the deed at all and the doer, did he wish to be frank, would mostly have to acknowledge that he really did not himself exactly know what impelled him to do it." (From A Pszichoanalizes haladosa, Budapest, Translated by Jane Suttie.)

Most of the suicides described by Dr. Stearns could easily be explained as an acting out of an Oedipus complex which was first described by Freud. In brief the boy is thought to be fighting against wishes whose content was the absence (departure or death) of his father. He usually feels the father as a rival for the favor of his mother. This is something that the boy usually feels is very reprehensible and in his mind he should be punished for this. In these cases the boys have actually acted out the punishment and inflicted the death sentence on themselves. After having first made some sort of sexual advance towards their mother (i.e., exposing themselves or dressing up in girl's clothes perhaps their mother's).

In the practice of intensive psycho-therapy one is apt to run across cases that could have easily ended as those in Dr. Stearns' article. The following is a condensed case history leading to almost the same end as the 25 boys in the article. The history is considerably shortened for brevity's sake. It was collected over a period of several years treatment.

Case History: C. H.'s first memory occurred as near as he could remember somewhere in his third year. It is a very hazy memory of being in the hall with his older brother in front of their parents bedroom door. He got a glimpse of his parents in bed together. He wasn't quite sure what was happening. His brother shut the door and said they shouldn't go in. He couldn't understand why he shouldn't go in and asked to be allowed to do so; but his brother wouldn't let him.

A little later he can remember being bathed by his mother, as he was doing so he put his hand over his testicles because they were sensitive and the water was hot. His mother told him that he shouldn't do this. He did not receive an adequate explanation. He then asked his mother if she didn't feel the same way when she took a bath. She was obviously embarrassed and would not answer him.

Then a little later, probably in his fourth year during the winter, his father had gone off to work; but his older brother had not yet left for school. His mother was taking her usual morning bath. His brother had always been interested in being in the bathroom with his mother; but up to this time the patient had never particularly cared to. His mother had said before this, how cold and impersonal he was for not wanting to be with her. On this morning something made him want to do so. His mother allowed him in. Almost as soon as the bath got underway, he noticed that his mother wasn't built the way he was, for one thing she had pubic hair. He asked her what this was. She became very angry and told him that he had a nasty mind and insisted on his leaving the room. He did so even though he didn't want to. He went up to his bedroom and can remember being there all alone. All he can remember is the big light blue rug that seemed to extend everywhere leaving him all alone, none of the other furniture is in his memory of that time.

A few days later he can remember being locked out of the bathroom even though his older brother was allowed in. He can remember hammering on the door and feeling very much rejected.

That spring his parents bought a new country home. The family went to inspect this new home. He and his mother stayed near the house while his father and brother took a walk around the grounds. She insisted on him sunbathing in the nude. He objected violently to this, but had no choice. He spent the whole time hiding behind the hay stack and was very miserable.

The next winter when the family had returned to the city the patient developed his first symptom, one that finally was to bring him to a psychiatrist several years later. When his mother would leave the house he would feel lonely (or as he put it "bored"). He felt it would be exciting to get undressed in his mother's bathroom. He started doing this every time his mother would leave the house. He also doused himself with her toilet water some of which got on his testicles. This hurt as the hot water in the bath had done some years before. After this experience he began to expand his areas of operation and would wander around the house nude. Each time he went a little further, each new conquest was exciting, but none of them seemed to answer his needs. He was never able to find exactly what he was looking for.

There was always some new adventure that he had not yet tried. Along with this he developed an interest in self-inflicted pain which he could not understand. He felt there must be something wrong with himself, but he enjoyed it and it was a way of finding amusement when nobody else was around.

At about this time his father started playing chess with him, at first naturally his father won; but after a few years he began to beat his father. Then his father refused to play with him any more.

A year or so later the government began to place restrictions on the way his father was allowed to run his business. His father could not stand this threat to his ego and retired. He soon began drinking to excess and became very unpleasant to live with. As a result C. H. got in the habit of going up to his room right after supper.

He would go up to his room, take off his clothes, lay down on the bed and listen to the radio. After a few months, his mother came up to his room. The first time she came in he was very embarrassed, but she said, "That's alright, I know what you look like I am your mother." This became a nightly occurrence. C. H. enjoyed being undressed in front of his mother.

At about this time he started masturbating and as he did so he fantasied that he was having relations with his mother. Even though this thought was very upsetting and threatening to him.

One day when he was about 17, his mother and father left home together. His brother was away at school and he was all alone. He went down into the cellar and took off his clothes. He hid them under the stairs and walked through the cellar. It consisted of three rooms. The further room in which he finally ended up was the furnace room. He found a strong piece of wire there and fastened it securely to one of the beams, drew a box over under the wire and tied the wire around his neck securely. He toyed with the idea of kicking the box out from under his feet. He stayed there sometime considering the move, but felt that he shouldn't do it because it would be so upsetting to his parents. For some reason he couldn't understand, the more he thought of this the more attractive the idea became to him. He pulled his feet up off the box instead of kicking it out from under him. Even though it was very unpleasant, it wasn't something he couldn't stand. At this point he heard somebody coming into the cellar and quickly got the wire off the ceiling and hid behind the furnace. It was the man who tended the furnace. While the man was there the patient could remember being very excited; but somehow he did not feel like going back and "playing" with the wire any more.

The above history is the logical sequence of events that led up to the incident very similar to any of the 25 examples given in Dr. Stearns' article. In this case I am sure that Dr. Stearns would have felt that the patient had committed suicide without cause. Nobody knew of his fantasies or exhibitionism. He was doing well scholastically. He was well liked in high school and was a member of the football team. He had had no unfortunate romances.

In this case a 17-year-old boy almost committed suicide. The first link in the chain occurred when his mother could not permit him to put his hand over his testicles when they were hurting. When he tried to find out why she wouldn't let him, he suffered a severe rejection by her, and yet a little later she was very seductive in the very areas that she had rejected him. This naturally heightened his concern, and he developed a neurotic trait with which he endeavored to overcome or solve this problem.

At the same time he had a father who could not allow himself to be beaten in any way. Then this father himself became very weak by becoming an alcoholic. This meant that the patient had little or no barrier to his fantasies of sex with his mother. His mother's seductiveness both excited and scared him. Then when his mother and father went off to a party together he felt very much rejected. His mother had no business leaving him for his father. He reacted to this rejection in his typical way of exhibitionism, because of what this meant to him unconsciously in relation to his mother's seductiveness. He felt that he should be punished, as he had been by the hot bath and his mother's toilet water. The neurotic need to always be adding a new and different quirk to his acting out played its part in his explorations with the wire that almost ended in his suicide.

The observation of the primal scene before the age of 4 probably set the stage for a great deal of this boy's fear of sex and the thoughts of incest that pervades the whole history.

CENTENNIAL SESSION — PORTLAND — JUNE 21-24, 1953

Hobby Exhibit

A Hobby Exhibit will again be a feature of our June meeting program. If you are interested in participating in this exhibit, please write to the Maine Medical Association, 142 High Street, Portland, Maine, giving information relative to the type of exhibit, and amount of space required.

MEDICINE AND THE LAW*

By Herbert E. Locke, Esq.**

Time does not permit a discussion of the entire field. And the subject is well covered, in a country-wide view, by numerous publications available to the doctor.[1] Suggestions I thought helpful were made in an address "The Malpractice Suit, Why and Wherefore," delivered by me before New England Medical Council, February 12, 1931. Although I think the discussion by New England doctors and counsel, provoked by my paper, was more useful than the paper itself.[2] I have tried to make some practical suggestions from time to time. Note "Safeguarding the Surgeon," a paper I presented at the Surgical Conference at the 88th Annual Session, Rangeley Lakes, June 25, 1940.[3]

My interest, as most of you know, is as counsel for the State Association, concerned primarily with the avoidance of, and if necessary the defense of, malpractice claims, since about 1920. Also for the past two decades I have tried to advise Maine M. D.'s quietly and confidentially on legal problems arising in their daily practice and not necessarily in the malpractice field. Since we came to have an Executive Secretary, he and I have coöperated to that end.

So, with our time limited, I will not try to cover, even sketchily, the whole field of medical jurisprudence. From your medical school courses and your reading, you have general familiarity with that anyway. Instead I will devote myself chiefly to a few points which Maine M. D.'s should, but do not always, bear in mind, as indicated by my experience the past thirty odd years. A bit of prophylaxis, if I may use that term.

The Malpractice Claim Against the Maine Doctor

In some cases there is malpractice, failure to render adequate and intelligent treatment; and those we try to adjust promptly and fairly, as I believe our Court knows. But in the vast majority of cases, careful investigation shows the claim to be unwarranted. In many such cases we are able to convince plaintiff's attorney to that conclusion by frank discussion, "laying the cards on the table." Why, then, are such claims brought? As I have seen it, there are three chief causes:

1. *Poor result.* If the patient didn't believe that he had something the matter with him and that you could and should cure it, he wouldn't call you. You cannot guarantee good result. And you never should. But poor result, or result which the patient finds unsatisfactory, spells fault on your part to many patients. Medicine is a progressive but decidedly inexact science. Many laymen, however, treat it is an exact science. All poor result cases, all cases in which the patient evidences his dissatisfaction, are *potential* malpractice claims. Louis J, Regan, M. D., L.L.B., of Los Angeles, California, an eminent authority, said in 1951 that in some localities "any patient with less than perfect end result is a potential malpractice claimant."[4] Evidently this is true, country-wide; it is true to an extent in Maine.

Compare the situation of the doctor with that of the lawyer in this connection. Law is also an inexact science. And in every case tried, one lawyer or the other made an incorrect, although educated, guess, an incorrect diagnosis. Or during the trial made one of the many "mistakes" which are made by one lawyer or the other, usually both, in any trial. The unsuccessful litigant seldom makes claim against the lawyer. Perhaps because the lawyer has been his zealous champion against another.

But the patient is much less considerate of his doctor, his champion in the fight to overcome the effects of disease or injury. Consequently you should treat every dissatisfied patient as a potential malpractice claimant, and proceed accordingly.

2. *Unwarranted professional criticism.* Doctors are human. And it is human nature to invite the esteem of your fellowmen. Even though in so doing you mischievously hurt another M. D. "Why didn't you come to me before?" That is oftentimes enough. In the 1951 report I have mentioned, doctor-lawyer Regan says that this unwarranted criticism is "the precipitating cause of a majority of all malpractice claims;" that "it has been estimated that 50% to 80% of all the claims for malpractice would be eliminated if such destructive criticism could be stopped."

For years I have urged and I repeat:

Don't criticize — particularly to the patient — the treatment given by some other doctor before the patient came to you. You see the result. You hear the patient's story, usually colored in his favor. With most of us, the wish is father of the thought. So it is with the patient. You do not know the whole story. You do not know what the original condition was, what the other doctor encountered for difficulties, or whether he had proper coöperation from the patient. Wait "until the evidence is all in." You may have to change your mind when you get all the facts. My

* Presented at a meeting of the Kennebec County Medical Society, December 11, 1952.

** Of Locke, Campbell, Reid & Hebert, Attys., Augusta, Maine, General Counsel, Maine Medical Association.

experience shows that in most cases you will have to. Then you become fair game for that accusation so often made: the second doctor was with me alright until he talked with the other doctor and looked up the hospital record; then he was against me; you can't trust those doctors; they all stick together.

If you will delay expression of opinion until you know what you're talking about, until you have talked with the other doctor and informed yourself fully, you will keep yourself out of a lot of embarrassment and trouble. And render a deserved service to the other doctor and the profession generally. If there is one thing that hurts the doctor in public esteem it is "blowing hot" for the patient, and then after investigation, "blowing cold" for the accused doctor.

3. *"Somebody should pay for it."* In the past twenty years we have made great strides in this country in social legislation, in providing compensation for misfortune. But some evil always accompanies the good. And it is natural enough that with our progress in social security, we have fostered a conviction among less thoughtful people that "somebody ought to pay for it" anyway, whether anybody is at fault or not. The idea seems to be that someone should pay for the illness or injury regardless of fault; if not the owner of the other automobile, then some insurance company; if not the employer by means of Workmen's Compensation, then the city or state or the Great White Father. And if none of these, then the doctor, who didn't get a very good result anyhow.

Further, there are those who think they discern a tendency of our Courts, even our highest Court in the country, to make concessions to this philosophy.

Two fairly recent decisions of our Maine Court which would not interest you, but are decidedly interesting to Maine lawyers, indicate, however, that our Maine Supreme Court is not converted to it.

—*Wheeler* vs. *Phoenix Assurance Company, Ltd.*, 144 Me. 105 (1949).

—*Reynolds* vs. *Hinman Company*, 145 Me. 343 (1950).

Nevertheless, the idea that someone ought to pay for the patient's injury or disease, plus the absence of any other source of payment, have resulted in more claims against the attending doctor than otherwise would have been made. And the fact that last month we evidenced our decision, with some emphasis, that we have strode far enough along the path of liberality with other people's money will not cause any sudden decrease in malpractice claims against doctors based on this third factor: that somebody should pay for it, even perhaps the doctor who tried to correct it. It is still a cause. To the extent it exists, we cannot prevent it. The most we can do is reckon with it and act accordingly.

Prophylaxis

As deterrents to malpractice claims, I suggest, as I have before:

1. *Keep adequate records.* Both in your office and in the hospital. More doctors keep records better than thirty years ago. But hardly a year passes without a troublesome claim which would have been immediately answerable, had complete records been kept.

2. *Advise in writing in extreme cases.* Patient, living in a distant town, suffered sympathetic ophthalmia in one eye and complete blindness following removal of the other eye by the doctor. Why? Because advice given orally, but vigorously denied by the patient, was not followed. Where, as in this case, it was of vital importance that the advice be followed and the patient was not under the supervision of a local doctor, caution dictated that the advice be confirmed in writing. Patients, unsupervised, are notoriously forgetful of advice and instructions, once they "feel better." Every year or so presents a case wherein written advice would have answered the claim.

3. *Preserve proof of patient's refusal of advice.* In a case of delayed union, the surgeon advised bone freshening. Patient refused, and left the hospital. But under my advice, the surgeon required patient and his wife to sign a written acknowledgment of the advice and its refusal before discharge. In a subsequent suit, because of the false joint in the patient's arm, patient denied the advice. Written acknowledgment of it, signed by him, won the case for the surgeon.

4. *Take confirmatory X-rays.* Time and again trauma, denied by the patient, disturbs the alignment and apposition procured by the surgeon, particularly in the case of an out patient, and with no post-reduction X-ray taken to prove the reduction obtained. I have such a case now, with a distressing end result. Take those X-rays for protection of yourself, even though you do not consider them necessary clinically.

5. *Radiologists should use the term "Impression."* An X-ray report is an interpretation of shadows, not a "picture" description. It is an opinion, an "impression," truly. Confronted with the claim that the X-ray "finding" is a statement of the absolute, and therefore actionable, if mistaken, for years I have urged use of the word "impression" or word of similar connotation. Yet I still encounter, repeatedly, the bald expression, "finding," sometimes with a claim made because of it, one within the past year.

6. *Report potential claims.* A substantial portion, probably half, of potential malpractice claims are avoided by prompt report and subsequent handling pursuant to counsel's advice. At least once a year we have a case wherein such advice, requested and followed, would have avoided the claim. Counsel is

available. Use him. Your insurer is particularly desirous that you do so.

7. *Carry malpractice insurance, in Association's recommended insurance company.* In the August, 1951, issue of the JOURNAL, I reminded you that you should have malpractice insurance, and in adequate amount, and with broad coverage, including, not excluding, major surgery if you do any at all. This repeats advice I have previously given. Yet, nearly every year I have a case in which 1) the doctor is not insured, or 2) not insured in adequate amount in these days of the depreciated dollar, or 3) has excluded major surgery and then had a case involving it.

For coverage, I recommend 20/60, i.e., $20,000 for any single case, with $60,000 limit for any one year. Carry at least 15/45.

The matter of approved and recommended insurers and insurance rates is fully covered by a very recent word from the President of the Maine Medical Association and the Medical Advisory Committee, in the November, 1952, JOURNAL, page 238. Comment from me is unnecessary.

In general, professional liability insurance, i.e., for doctors, dentists, lawyers, and other professional men is not at all popular with the insurers; many companies won't write it at all; country-wide, it is not considered by them a profitable line. Your insurance, pursuant to the recommendations of your officers, relatively non-cancellable, is of vital importance to you. It is worth many times what you pay for it. Don't fail to carry it.

8. *Don't fence or negotiate with claimant or his attorney.* Your first inclination on receipt of claim by patient or attorney may be to call them up and "straighten it out." You know you were not at fault. You know why. You are confident you can convince them. Don't do it. In the first place, they have arrived at a stage where they don't want to be convinced anyway. And the attorney is necessarily more skillful in his field than you can hope to be. Let your lawyer take this responsibility. Or at least counsel you. And at the insurer's expense.

9. *Don't prepare a case against yourself.* First, by an unduly favorable statement to help another practitioner. A reliable doctor in a Maine city signed a statement prepared by the insurance lawyer for a dentist against whom claim was being made and whom the doctor had assisted at an extraction. It was very favorable to the dentist and indicated that "the fault was not that of the dentist." Capitalizing on this statement, the dentist's insurer's attorney furnished it to the plaintiff patient's attorney. And claim against the doctor resulted. Tactically, I was in poor position.

Second, don't help a patient in preparation of his personal injury claim to your own disadvantage. The doctor enlarged upon the residual condition following an automobile injury. He had not secured as good an end result as he had hoped, and so stated in his report to plaintiff patient's attorney. Recovery against the automobile driver failed because of his financial irresponsibility. Plaintiff patient and his attorney thereupon fell back upon the statement of the attending physician and made claim against him, making me a little trouble for some time. Consequently, when there is any possibility of claim of unsatisfactory end result, be guarded in enlarging upon the seriousness of the injury and the residual condition.

Third, take the same care in dealing with the insurer's representative. The doctor furnished the insurance adjustor with X-rays, reports and complete data. Thereupon the adjustor, who could not settle with the injured patient for the low figure he desired, brought suit for the injured man against the doctor, using the data furnished by the doctor himself. It seemed obvious that settlement of the automobile claim was being delayed in the hope that some amount might be recovered from the doctor. This instance occurred some years ago. I actually had to try the case. I would not expect the representative of any insurer in Maine today to indulge in such practice. But it can happen. It has happened.

10. *Don't unwittingly stimulate a claim against another doctor.* By insinuation, carelessness, or mischievous conduct or words. I discussed this in the early part of this talk. By not taking care in this connection, you may hurt yourself as much as, or more than, the other doctor. And hurt the profession in general. For the reasons I mentioned previously.

Some complaints against doctors involve the amount of the charge, the general sufficiency of the attention given and the like, and fall short of malpractice claims as such. To protect the public in such cases, we now have an Ethics and Discipline Committee. It is functioning and caring for some cases in its field.

Listening to the above "Dos" and "Donts," most of you may have the reaction, well, I knew that anyway, why talk about it? My answer: not a year passes without a case illustrating failure to follow some one or other of these points of advice. So I repeat them. Repetition is one form of emphasis.

To be continued in the April Issue

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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EDITORIAL SECTION

In This Issue

In this month's issue, THE JOURNAL is publishing the first installments of two articles which have special interest for all our members. They dwell on general subjects and they are designed to present information of value to both the specialist and the general practitioner.

Dr. Alta Ashley has written two articles on Tuberculosis in Maine. The first, a critical review of The Status of Tuberculosis Control, which appears in this issue, is the most comprehensive review to be instituted in Maine for quite a while. We hope that it will help to revitalize an interest in the general subject of tuberculosis. We are impelled to make the above statement because reports have circulated that tuberculosis is a vanishing disease and that it is well under control. Facts and figures do not substantiate this idea. And control, good control, demands cooperation between our State Health Department, our Voluntary Tuberculosis Associations and the private physician. If they all help each other, good control will be accomplished. The Health Department and Voluntary Associations do a good deal to arrange and carry out X-ray Surveys and the private physicians can help by following up doubtful cases and insisting on repeat X-ray examinations in such cases. Moreover, our profession can encourage patients with questionable signs of the disease to have chest X-ray examinations. Dr. F. W. Barden, the director of the Saco-Lowell health program, wrote an article on Industry and Tuberculosis which appeared in our issue of November, 1952, in which he stated that, "The family physician has a definite responsibility, which is three-fold; first, to the patient and his family; second, to the community as a whole; and, third, to the employer of the patient." We bespeak your interest in the problem.

The second article, which will be published in three installments, is written by Herbert E. Locke, Esq., Counsel for the Association. Mr. Locke is a valued advisor to the medical profession of the State. He speaks from a long experience and from a trained mind. The problem of malpractice is not a simple one. Men who have been long in practice will find the essay to be rich in practical comments and the younger men, we believe, will find some food for thought and not a few pearls of wisdom. By coincidence there appears in the November, 1952, issue a statement about Malpractice Insurance and Rates Therefor. May we suggest that our members read the statement as well as the essay.

The Heart and Exercise*

Dr. Paul Dudley White has attained the unusual distinction of making *Time* magazine twice in the same issue. He is at first described as an enthusiastic marine scientist who dashes about the waters off Alaska and California, plunging harpoons into whales and then recording their electrocardiograms. This use of subcutaneous leads is in a way reminiscent of the manner in which the first tracings were made by means of the capillary electrometer. Due note is made of the serious scientific purpose of these whaling expeditions. By the way, did you know that one of Dr.

* In the light of recent statements regarding heart disease and treatment thereof, the Editor invited our President, Dr. Eugene H. Drake of Portland, to submit the above article.

White's early scientific papers was written on the anatomy of the conducting system in the heart of the sperm whale.[1]

On the occasion of receiving the Lasky award, Dr. White commented upon the decreasing amount of exercise in the life of the average American. He believes that a man of 60 need not give up exercise provided he has no cardiovascular disease; it may be safe to continue to ride a bicycle or perhaps to cut the lawn. Even those with heart disease must not necessarily give up going up stairs. We remember that MacKenzie continued golf until he was cut down to three holes; but MacKenzie knew that he had angina and possessed the wisdom to tell when to quit short of provoking the pain. To go back to the man who has no known cardiovascular disease,—the later years of life are the wrong time to start training the body for vigorous exercise but to continue some measure of one's customary exercise in the absence of symptoms is another thing altogether. One of the most dangerous circumstances is the long weekend spent at strenuous and unusual work, so often attempted in the spring after a soft winter of indoor life. Another is the fat man who is troubled with "gas" and undertakes to take off weight with exercise rather than by means of diet.

Perhaps we should try to educate young people to take regular exercises.

1. White, P. D., and Kerr, W. J.: The heart of the sperm whale with especial reference to the A-V conduction system. Heart: 1917, VI, 207.

President Eisenhower's Reorganization Plan No. 1: A Department of Health, Education and Welfare

In December, 1952, after the Presidential election and the naming of Mrs. Oveta Culp Hobby as the new Federal Security Agency Administrator, top officials of the American Medical Association requested a conference with her concerning this Reorganization plan. On February 3rd that conference was held followed on February 5th by a conference with President Eisenhower.

Two conferences were also held with the Rockefeller Reorganization Committee on February 18th and February 25th on this subject. Conferences by other top American Medical Association officials were held with Senator Taft and other members of Congress.

These Committees learned that an independent Department of Health or Health Agency would not be proposed. They learned further that the Administration and Congress felt that there are already too many independent agencies and that the number should be reduced rather than increased. Because the proposed reorganization did not create a special Department of Health but does provide for a Special Assistant to the Secretary for Health and Medical affairs, through whom all matters pertaining in any way with health and medicine must be cleared, American Medical Association Trustees felt that this new proposal for an Assistant to the Secretary should be considered by a special meeting of the House of Delegates.

The meeting of the House of Delegates was called for March 14th and to the House of Delegates the trustees of the American Medical Association made the following recommendations which are quoted from the "Washington Report" of Gerald G. Gross.

"For nearly 80 years A. M. A. has favored an independent Department of Health because 'health and medicine should be given a status commensurate with their dignity and importance in the lives of the American people, and that they should be completely divorced from any political considerations.'

"Reorg. Plan No. 1 provides for special assistant to the Secretary for health and medical affairs. 'This provision is a step in the right direction which should result in centralized coördination under a leader in the medical field of the health activities of the proposed Department. Health, therefore, is given a special position.'

"Result will be more effective coördination of health activities without interference or control by other branches. Previous attempts (in Truman Administration) were opposed because these safeguards were lacking. Anyway, since nationalization of medicine could be effected only by Congress, elevation of FSA to Cabinet status 'is not nearly so vital an issue as the policies adopted by the Congress of the United States.'

"Support of an independent Department of Health is reaffirmed but Plan No. 1 is indorsed as a step in right direction and deserving AMA coöperation. AMA reserves right to recommend changes and press for ultimate establishment of Department of Health if Eisenhower plan, after trial period, 'does not result in proper advancement in and protection of health and medical science and in their freedom from political control.' "

The House of Delegates of the American Medical Association unanimously adopted the recommendations of the Board of Trustees.

Progress Report of the Committee for the Centennial Celebration

Dame Rumor alleges that many members of the profession who with their families have in years past attended the annual meetings with a quest for fun, relaxation and entertainment fear the Centennial program will be top-heavy with boring, unattractive academic ponderosities. If this proves to be true, the Committee will have flubbed its job. Recognizing that the urban qualities of Portland are not particularly conducive to a holiday spirit, your Committee has leaned over backwards in an effort to plan an entertaining meeting. A strong effort has been made to pluck from the program any feathers that looked the least bit dull or didactic. In other words, we aim to please.

The Entertainment Committee has gone "all out" in its plans to make life for the profession as easy and pleasant as possible. During the opening get-together, Sunday night, June 21st, we are to enjoy a musical program, some remarks from Governor Cross and presentation of an interesting resume of History of Medicine in the State by Dr. Thomas Foster. On Monday evening, there will be an old fashioned clambake. Those members and their guests who have hair may let it down at this time. Following the evening dinner on Tuesday, Dr. Harris P. Mosher will read his paper entitled "My Creed"—which is reported to have made a big hit at other medical meetings. There will also be a recitation of humorous and entertaining tidbits of experiences of general practice in the country in days gone by.

In order to keep the morning clinical sessions and the afternoon presentations by guest speakers lively and fresh, definite time limits have been suggested for all participants. The Scientific Committee has encouraged the guest speakers to give papers of not only educational but also out-of-the-ordinary interest value. Believing the pause that refreshes to be a mighty important pause, brief intermissions have been planned for morning and afternoon sessions during which the physician may test for himself the carcinogenic properties of nicotine.

C. Lawrence Holt, M. D.,
Chairman, Centennial Committee.

COMING MEETINGS

Interim Meeting Maine Medical Association House of Delegates

The Interim Meeting of the Maine Medical Association House of Delegates will be held at the Bangor House, Bangor, Maine, on Sunday, April 19th at 2.00 P. M.

Maine Medical Association Centennial Session, Eastland Hotel, Portland, Maine, June 21-24, 1953. Chairman Centennial Committee, Dr. C. Lawrence Holt, Portland. See "Progress Report of the Committee for the Centennial Celebration," which is published elsewhere in this issue of the Journal.

American Heart Association, Hotel Chelsea, Atlantic City, New Jersey, April 8-12, 1953. Medical Director, Dr. Charles D. Marple, 44 East 23rd Street, New York 10, New York.

American College of Physicians, Haddon Hall, Atlantic City, New Jersey, April 13-17, 1953. Executive Secretary, Mr. E. R. Loveland, 4200 Pine Street, Philadelphia 4, Pennsylvania.

American Academy of Pediatrics, Areal Meeting, Hotel Statler, Boston, April 20-22, 1953. Executive Secretary, Dr. E. H. Christopherson, 610 Church Street, Evanston, Illinois.

American College of Allergists, Conrad Hilton Hotel, Chicago, April 26-29, 1953. Secretary, Dr. Fred W. Wittich, 423 LaSalle Medical Bldg., Minneapolis 2, Minnesota.

American Medical Association, 1953 Annual Session, New York City, June 1-5. Secretary, Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Ill.

For the first time in many years, the Annual Meeting of A. M. A. is being held in New York City, at Grand Central Palace. More than 15,000 physicians are expected to register and about 30 other conventions will be meeting in New York City at about the same time. IMPORTANT: Physicians will need a 1953 A. M. A. pocket card to admit them to the Scientific and Technical Exhibits, as well as to the sectional meetings.

Connecticut State Medical Society, Hamden High School, Hamden, Connecticut, April 27-29, 1953. Secretary, Dr. Creighton Barker, 160 St. Ronan Street, New Haven, Connecticut.

Massachusetts Medical Society, Boston, May 19-21, 1953. Secretary, Dr. Dwight O'Hara, 22 The Fenway, Boston 15, Massachusetts.

Rhode Island Medical Society, Rhode Island Medical Society Library, May 6 and 7, 1953. Secretary, Dr. Thomas Perry, Jr., 106 Francis Street, Providence 3, Rhode Island.

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Aroostook
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COUNTY SOCIETY NOTES

Androscoggin

The annual meeting of the Androscoggin County Medical Society was held at St. Mary's General Hospital, Lewiston, on Thursday, January 15, 1953, at 8.30 P. M. The meeting was called to order by the president, Dr. Alcid F. DuMais.

The following Officers were elected for the coming year:

President, Dr. William Spear, Lisbon Falls.

Vice President, Dr. George D. Desaulniers, Lewiston.

Secretary-Treasurer, Dr. Norman O. Gauvreau, Lewiston.

Councilors: Dr. Bertrand A. Beliveau, Lewiston (1954), Dr. Merrill S. F. Greene, Lewiston (1955), Dr. Romeo A. Beliveau, Lewiston (1956).

Delegates to the Maine Medical Association: Dr. Daniel F. D. Russell, Leeds; Dr. Charles W. Steele, Lewiston; Dr. Alcid F. DuMais, Lewiston; and Dr. Blinn W. Russell, Lewiston. Alternates: Dr. Paul R. Chevalier, Lewiston; and Dr. Rudolph Haas, Lewiston.

Following a few remarks by Dr. DuMais, the retiring president, Dr. William Spear was inaugurated as president of the society for 1953. His first act was to appoint a Program Committee consisting of Drs. Norman Gauvreau and DuMais.

Dr. Steele suggested the appointment of an Ethics Committee for the County Society, similar to the Maine Medical Association's Committee on Ethics and Discipline. It was decided to discuss this further at the next meeting.

Dr. DuMais suggested the appointment of a Public Relations Committee, following which Dr. Waldo A. Clapp moved that a committee of three be appointed and it was so voted. Dr. Spear appointed the following members to serve on this committee: Dr. Norman O. Gauvreau, Dr. George B. O'Connell and Dr. Romeo A. Beliveau.

NORMAN O. GAUVREAU, M. D.,
Secretary.

Cumberland

The annual meeting of the Cumberland County Medical Society was held at Pownal State School, Pownal, Maine, January 21, 1953.

The following Officers were elected for the coming year:

President, Dr. Carl E. Dunham, Portland.

Vice President, Dr. John M. Bischoffberger, Naples.

Secretary-Treasurer, Dr. Ralf Martin, Portland.

Public Relations Committee: Dr. Francis M. Dooley, Portland; Dr. Francis W. Hanlon, Portland; and Dr. Ralph A. Getchell, Portland.

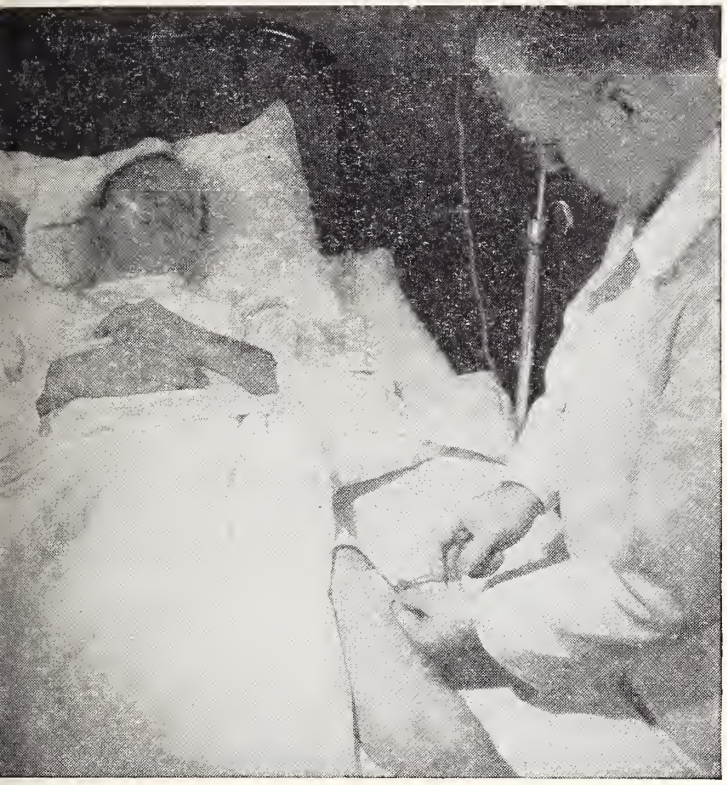
Executive Committee: Dr. Thomas A. Martin, Portland (3 years); Dr. Theodore M. Stevens, Portland (2 years); Dr. Charles H. Gordon, Portland (1 year).

Delegates to the Maine Medical Association: Two years: Dr. Daniel F. Hanley, Brunswick; Dr. George I. Geer, Jr., Portland; Dr. Ralph Heifetz, Portland; and Dr. Sidney R. Branson, South Windham. One year: Dr. John R. Lincoln, Portland; Dr. Bernard H. Burbank, South Portland; Dr. Alvin A. Morrison, Portland; and Dr. Emerson H. Drake, Portland. Alternates: Two years: Dr. Donald G. Wight, South Portland; Dr. G. Hermann Derry, Portland; Dr. William A. Ventimiglia, Portland; and Dr. Philip P. Thompson, Jr., Portland. One year: Dr. Henry M. Tabachnick, Portland; Dr. Leo J. McDermott, Portland; Dr. Ronald A. Bettle, Brunswick; and Dr. William C. Burrage, Portland.

Dr. Eugene H. Drake of Portland, President of the Maine Medical Association, spoke relative to State Association affairs. Dr. William F. Mahaney, Councilor for the District and Chairman of the State Association's Health Insurance Committee, spoke on the Blue Shield Plan.

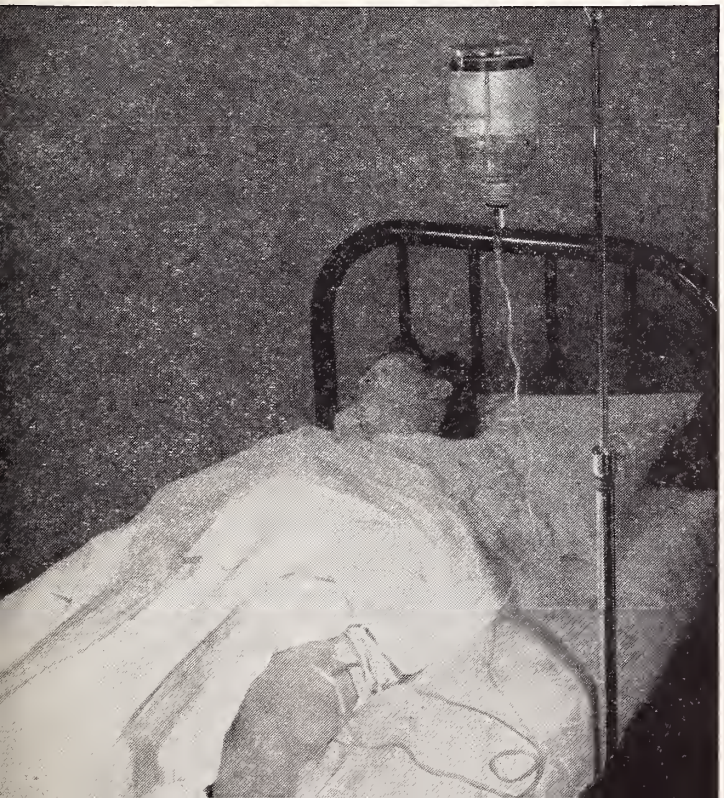
Dr. Nessib S. Kupelian, Superintendent of Pownal State School, gave a detailed account of the work at the school.

Use of Alidase® Permits Subcutaneous Administration of Fluids at Usual Intravenous Rates



In operative states—Alidase circumvents the complicating factors of venous thrombosis and "wornout" veins which frequently make fluid administration by vein difficult and dangerous. Simplicity and safety of Alidase make hypodermoclysis a method of choice for preoperative preparation and postoperative maintenance.

In burns—Plasma and electrolyte solutions can be given subcutaneously at effective rates when Alidase is employed; collapsed veins or risks of thrombosis are not a problem with this method.



Addition of Alidase to the first few cubic centimeters of fluid during hypodermoclysis speeds absorption to a degree approximating that of the intravenous route. Use of highly purified hyaluronidase in this manner avoids the well-known difficulties encountered with venoclysis, saves valuable nursing time and is more comfortable to the patient.

Hechter, Dopkeen and Yudell[1] have found that the use of hyaluronidase has "markedly increased the rates of absorption and administration of hypodermoclysis with no untoward reactions." They also found that extremely small amounts of this enzyme facilitated the absorption of fluids in that greater amounts of fluids were absorbed by the patient in a given period of time and that the localized swelling following hypodermoclysis disappeared more promptly.

Similar results with Alidase were recounted by Schwartzman, Henderson and King.[2] They observed "that absorption of various types of solutions, such as saline, glucose in saline, Hartmann's solution, Ringer's solution, penicillin, streptomycin, Adrenalin, and procaine was facilitated in every case."

In toxemias of pregnancy—Urgently-needed parenteral fluids may be administered subcutaneously with the aid of Alidase, eliminating risk of thrombosis attending repeated intravenous administration of electrolyte solutions. Alidase is the highly purified Searle brand of hyaluronidase and is accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

G. D. Searle & Co. *Research in the Service of Medicine*

1. Hechter, O.; Dopkeen, S. K., and Yudell, M. H.: The Clinical Use of Hyaluronidase in Hypodermoclysis, J. Pediat. 30:645 (June) 1947.
2. Schwartzman, J.; Henderson, A. T., and King, W. E.: Hyaluronidase in Fluid Administration: A Preliminary Report, J. Pediat. 33:267 (Sept.) 1948.

Franklin

Dr. Eugene H. Drake of Portland, President of the Maine Medical Association, was guest speaker at the Franklin County Medical Society meeting, held in Farmington, January 12, 1953. Dr. Drake's subject was Some New Developments in the Management of Heart Disease.

Dr. Francis H. Sleeper, Director of the Augusta State Hospital, was guest speaker at the February meeting of the Franklin County Medical Society. Dr. Sleeper's subject was The General Practitioner's Place in the Treatment of the Mentally Ill. He discussed what patients should be hospitalized, and the possible legal entanglements under the present laws.

The meeting was followed by a Valentine-Dagwood party, with members of the Woman's Auxiliary, at the home of Dr. Philip B. Chase in Farmington.

PAUL E. FLOYD, M. D.,
Secretary.

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, Maine, February 11, 1953. There were eight members and three guests present.

The meeting was called to order by the vice president, Dr. Mason Trowbridge.

Dr. Eugene H. Drake of Portland, President of the Maine Medical Association, spoke on matters pertaining to the State Association. Dr. Karl V. Larson of East Machias, Councilor for the District, was present and spoke briefly.

Dr. Paul E. Black of Southwest Harbor, was elected to membership in the Society.

Dr. George W. Wood of Bangor, gave an interesting and enlightening talk on Diagnosis in Chest Diseases, and showed X-rays to illustrate cases.

ARTHUR M. JOOST, JR., M. D.,
Secretary.

Kennebec

A regular meeting of the Kennebec County Medical Association was held at the Augusta House, Augusta, Maine, January 15, 1953. There were twenty-three members and guests present.

Dr. Ralf Martin of Portland, speaker of the evening, was introduced by the President, Dr. Kurt A. Sommerfeld. Dr. Martin's subject was Remedial Heart Disease. A most instructive and well presented paper, which would not have been written under this title a few years ago; every single type of heart disease is now either curable or amenable to treatment; "the golden age of cardiology."

A. H. MORRELL, M. D.,
Secretary.

Somerset

Dr. Walter S. Stinchfield of Skowhegan, who has served Somerset County for forty-four years as medical examiner resigned that position February 1 and is vacationing in Florida.

Dr. Stinchfield, who will be eighty years of age in April, has practiced medicine for fifty-six years and will continue his practice in Skowhegan when he returns from Florida. He is an Honorary Member of the Somerset County Medical Society and Maine Medical Association.

New Member

Hancock

Dr. Paul E. Black, Southwest Harbor, Maine.

Management of the Third Stage of Labor—Continued from page 69

Dr. Coulton: Adequate manual removal can only be done under anesthesia. My patients almost invariably are anesthetized for delivery and when removal is indicated, it is accomplished before recovery from that anesthesia is allowed.

Question: When using intravenous ergotrate, why do you wait 60 seconds before completing delivery of the baby?

Dr. Coulton: Irrespective of the use of ergotrate, the baby should be delivered slowly. Often it is possible to begin and complete delivery in a matter of a minute or less particularly today when anesthesia, episiotomies and outlet forceps are becoming commonplace. Such a short delivery time is unphysiologic and does not allow time for the fundus to normally contract as the baby is expelled. Bleeding will occur from such a partially contracted uterus and partial detachment of the placenta with further bleeding will be common.

Dr. Leighton: Shades of Irving Potter and his elective removal of the child by version. This is the most dangerous dictum put into the hands of the young obstetrician that I have heard for some time. To routinely pull out that placenta manually, I say is absolutely "obstetrical blacksmithing" in the third stage of labor. In my forty-two years of practice, I never "went after one," and I have never given an oxytocic, until after the placenta has been expelled, in all this time. I am sorry that I cannot agree with you.

Dr. Coulton: I would like to make it clear that I have not recommended routine manual removal. Further than that we do not agree. The 1600 cases of routine manual removal which I quoted were performed to prove the safety of the procedure and it was not recommended as a routine for handling normal third stages. One should not perform manual removals without indication. However, there are indications, namely excess bleeding and retained placenta, which are far more dangerously handled by any other method; under these circumstances manual removal should be done and done early.

Chairman Sewall: There have been several very excellent articles which advocate manual removal. It has been very safe in all the hands using it. The main thing is to prevent bleeding, as hemorrhage today is one of the chief causes of death to the obstetrical patient.

Dr. Cattley: At the Margaret Hague Hospital where I spent two years, intravenous ergotrate after delivery of the head has been used for at least ten years, with the idea of conserving blood loss. It does cut down markedly on postpartum hemorrhage. They estimate, by measure, that the average post-partum blood loss is 50 c.c. They also do not hesitate to manually remove the placenta if it is not delivered spontaneously within ten minutes. That is their arbitrary time. Their reasons are that the longer you wait, the greater is the danger of infection, and the blood loss increases the morbidity.

At the Hague Hospital the nurses were trained, as Dr. Cosgrove described it to "stand there and follow the fundus down and push the placenta gently into the vagina." In the set-up in which I practice today, I cannot get a nurse who will do that. For that reason I have gone down to pitocin and ergotrate intramuscularly. My blood loss is much higher than it was in the years I spent in Jersey City using intravenous ergotrate.

Dr. Leighton: I am sorry to be rude, especially with a lady, and I shall not be. I realize that I am probably an old fogey in your mind. My meagre training was not at the Margaret Hague with my good friend Cosgrove; mine was over in Dublin, Ireland, where they taught conservative

obstetrics, at the Ratunda Hospital and I believe their methods in the control of the uterus in the third stage of labor are the best. Why take chances? I would be ashamed to have a hemorrhage in the third stage of labor. It is because of the "blacksmithing technique" on the part of some "Amazon" or untrained obstetrician who keeps poking and squeezing and pushing on the fundus which is not smoothly contracted and controlled.

For Heaven's sake, tell the fellows to keep out of the uterus, when possible. Don't hurry—wait a while!

A Doctor: May I speak as one of the ancients in obstetrics who would like to quote one still more ancient than myself. Over half a century ago, Dr. Seth Gordon told me that he had never seen a case of postpartum hemorrhage. He contributed this to the fact that he personally held the uterus for at least one hour. I presume he did have more blood loss than we are now accustomed to seeing. I followed out his dictum of holding the uterus and personally I will admit that I have seen postpartum hemorrhage, and I have lost two patients from postpartum hemorrhage in the days before we had blood transfusions.

I am not going to be too critical of the paper given by Dr. Coulton, because I realize times change and customs change with them. I can remember a good many years ago when some of the ideas that I advanced in this Association were just as radical as his.

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LOWER NEPHRON NEPHROSIS

C. Lawrence Holt, M. D., Portland, Maine

It seems fitting to report on acute renal insufficiency with lower nephron nephrosis in the Mercy Hospital issue of the Journal. Recognition and formal diagnosis of this condition was first made in this part of the State at this Hospital in the fall of 1947. The purpose of this presentation is to review simply and briefly factors of clinical interest. Physicians desiring a more detailed report are referred to Luckés original and well illustrated report on The Pathology of Lower Nephron Nephrosis.[9] An equally exemplary consideration of pathological features was made by the late Tracy Mallory in 1947, under the heading "Hemoglobinuric Nephrosis in Traumatic Shock."[11] Detailed accounts of the application of an artificial kidney have been given by John P. Merrill in a Progress Report,[15] and by John T. MacLean,[10] who presented the accumulation of Canadian experience in a very readable book. A detailed presentation of the basic abnormal physiology of renal insufficiency was given in 1945, by Stanley E. Bradley.[7]

The problem of medical treatment of lower nephron nephrosis resolves itself into one of management of severe oliguria or outright anuria. The skill and ingenuity of the physician is challenged hourly. Although general clinical considerations are important, accurate analytical assay of acid-base relationships and electrolyte concentrations may be necessary every six to twelve hours. This is particularly true of serum carbon dioxide content, and serum sodium and potassium ion concentrations. Of the anions, sulfate (SO_4) and phosphate (PO_4) are of interest but of less importance than the chloride ion.

Patients with anuria get into trouble because of two particular difficulties: 1. They are unable to excrete a normal amount of fluid through the kidneys to maintain normal water balance. 2. The important acid-base relationship cannot be maintained because of inability to excrete acid end products, which therefore tend to accumulate in the blood stream. Certain chemicals, normally excreted in the urine, potassium for example, accumulate in the blood and give rise to levels sufficiently high to be incompatible with the normal physiological function of certain tissues, particularly cardiac muscle.[6] In the early methods of treatment, fluids were forced unreasonably and many patients died within a few days from pulmonary edema accompanied by generalized anasarca.[11] This was thought to be due to the total amount of water and especially sodium ion injected by vein. Unfortunately the relationship is not this simple. The water retaining effect of sodium ion is well established, of course, but in the face of advanced pulmonary edema and striking acidosis, the administration of 3% solution of sterile sodium bicarbonate or 1/6 molar sodium lactate may diminish respiratory distress and abnormal pulmonary capillary permeability. Rather than being a simple problem of putting too much fluid into a closed vascular system, it may be a matter of intricate, complicated cellular and tissue permeabilities affected by abnormal renal, hepatic,[1] adrenal[4] and perhaps pituitary-hypothalamic functions.[3]

The factor of starvation is important. The process of maintaining cellular life is made possible only by the catabolic phase of tissue metabolism of the body. Since most patients cannot take food through the gastrointestinal tract, their stores of glucose and glycogen rapidly become exhausted. Body metabolism is then maintained by oxidative processes of the body's own proteins and fats. This leads to a progressive accumulation of potassium ion, sulfate ion, phosphate ion, nitrogenous waste and acid ketone bodies.[6] It is estimated that 6,000 mgms. of B.U.N. result from the catabolism of 37.5 gms. of body proteins per day.[17] This will, of course, be diluted by the 50 liters of available body water and hence amounts to an increase in serum concentration of 12 mg.% per day. Administration of 100 grams of glucose will prevent the metabolism of body fat and will reduce the usual basic protein metabolism of 70 grams a day by 50%.[18] Concentrated glucose is therefore indicated. Intramuscular testosterone proprionate likewise has a sparing effect on protein metabolism.[10, 14]

Total fluids to be administered should replace total amounts excreted in the urine, that drained from the gastrointestinal tract, an estimated amount eliminated by sweating, plus a basic conceptual figure of 1,000 ml. to cover so-called insensible losses. Sodium chloride should be given to compensate for losses in sweat and in gastric juices. Sodium ion will be necessary to combat acidosis when present.

John Merrill of Peter Bent Brigham Hospital[14] and John MacLean of the Royal Victoria Hospital[10] recommend administering concentrated fats to boost the caloric intake as soon as vomiting has ceased. G. M. Bull[2] has been the most enthusiastic proponent of this treatment. Emulsified butter and Lipomul-oral-Upjohn are recommended. From a theoretical standpoint this type of feeding seems hazardous. The metabolism of fats leads to increased ketone-acid-body formation. In the presence of acidosis and anuria this state of affairs could be harmful. One admits, however, the general beneficial effects of increased caloric intake with concentrated fats may more than compensate for any deleterious effect of ketone-acid-body formation.[2]

Physicians in the greater Portland area have to date chosen to treat most patients with lower nephron nephrosis passively and with conservative expectant treatment, knowing that renal function is usually re-established at the end of seven to eleven days,[17] a time corresponding with the re-epithelization of renal tubular systems.[9, 11] Since an artificial kidney is not available, active treatment could consist of intestinal perfusion or peritoneal dialysis. A single attempt by the writer to employ the intestinal perfusion technique by means of a Miller-Abbott tube in the ileum and a Levine tube in the duodenum ended unsatisfactorily. Since this patient had generalized peritonitis and multiple intra-abdominal abscesses, the result of a ruptured appendix, the benefit of treatment could not be evaluated. A fatal termination resulted. Of the utmost importance in intestinal or transperitoneal dialysis, is the necessity of proper preparation of dialyzing fluids.[7, 12] This was stressed by Marquis and Schnell[12] who lost a patient from hypopotassemia due to rapid and extensive lowering of serum potassium ion. The composition of the irrigating fluid recommended by Legrain and Merrill is as follows:[7]

Compound	Amount gm/liter	Compound	Amount Milliequiv./liter
NaCl	6.1	Na	130.0
$NaHCO_3$	2.2	K	4.6
KCL	0.35	Ca	4.2
$CaCl_2$ (anhydrous)	0.23	Mg	1.1
$MgCl_2$ (anhydrous)	0.05	Cl	115.0
Glucose	20.0	HCO_3	26.0

The total osmolarity of the fluid is 390 millimols per liter.

It seems reasonable to recommend that hospital operating rooms or central supply rooms keep on hand quantities of this fluid in sterile liter flasks.

Drugs such as digitalis compounds, streptomycin and sulfonamides must be given with extreme care for abnormal levels may be reached in a short time since a main avenue of exit in the kidney is blocked. The subject of severe digitalis intoxication following the onset of spontaneous diuresis, or following a run on the artificial kidney has been well covered in the literature.[8, 16] The relationship of digitalis level to potassium ion concentration[16] appears to be of more importance than a simple increase of digitalis compounds resulting from hemoconcentration consequent to rapid fluid loss. In spite of this hazard, careful administration of digitalis compounds is indicated in most patients with anuria.

The artificial kidney may be a life saver in many instances. Its presence should not be forgotten. In cases of recent laparotomy, gastrointestinal and peritoneal sepsis, transperitoneal dialysis is contraindicated and intestinal perfusion may be ill-advised. A decision to send the anuric patient to a Boston Hospital for a run on the artificial kidney may be difficult to make. The physician is caught in a dilemma between the Scylla of over-anxious impatience and the Charybdis of unwarranted expectancy. The following points seem important in making the decision. 1. Progressive increase in serum potassium levels. These may be analytically assayed by means of the flame photometer or may be judged with sufficient quantitative accuracy by the electrocardiogram. Characteristic T-wave changes, QRS instability, ST segment changes and electrical conduction prolongations accompany changes in concentration of circulating potassium ions. 2. Progressive lowering of the

carbon dioxide combining power not responding to administration of sodium ion. 3. Increased restlessness, irritability and coma. 4. Presence of severe infection. 5. The appearance of jaundice unless of a hemolytic type. The function of the liver appears to be of importance in the condition characterized by lower nephron nephrosis.[14] The interesting subject of hepatorenal syndrome has in recent years been critically analyzed by Stanley E. Bradley.[1]

Personal experience and observation warrants the following considerations. 1. An increased B.U.N. is of no particular prognostic significance. The B.U.N. may remain at a strikingly high level for days or weeks following the re-establishment of renal function. 2. Although dehydration is not a particularly sound physiological state, it appears preferable to over-hydration in the patient with anuria being followed expectantly. 3. Emergency treatment with insulin and hypertonic glucose may sufficiently depress hyperkaliemia to permit transporting the patient to Boston. 4. The patient with alkalosis due to chronic vomiting, as in pyloric obstruction, presents a particularly trying situation. Alkalosis itself may give rise to true lower nephron nephrosis,[13] or to functional oliguria.[5] A severe hypochloremia and hypokaliemia may be associated with a physiological renal shutdown. Re-establishment of normal chloride and potassium ion levels may cause the kidney to function again. Careful clinical and laboratory evaluations therefore of patients with anuria, alkalosis, repeated vomiting, and dehydration are necessary to differentiate the physiological anuria from that of lower nephron nephrosis. 5. A most acute emergency may develop during the stage of diuresis. When the kidney finally lets go, the collecting tubular system is presented with a pure glomerular filtrate uninfluenced by the normally selective re-absorption of the tubular system. A urinary output of from 5,000 to 8,000 ml. or more may occur within a 24-hour period. Electrolytes, especially sodium chloride and potassium, must be administered intravenously, ion for ion, to prevent the possibility of acute collapse and perhaps death due to the sudden depletion of essential cations.

Summary: A brief review of the clinical and biochemical aspects of lower nephron nephrosis has been presented.

Case Report

Mrs. I. L., 59-year-old, married, white female, first seen in medical consultation on 2/13/49. Story at that time revealed patient had been admitted to the hospital 6/22/48, with a diagnosis of generalized peritonitis. Operation consisted of removal of left ovary and repair of perforations of the colon. Pathological report from the ovary was poorly differentiated adenocarcinoma. The post-operative course was exceedingly stormy, complicated by a hemolytic anemia due to transfusion reaction. Discharge from the hospital was on 8/14/48. She was then given a course of deep X-ray therapy to the lower abdomen, and on 10/26/48, was readmitted to the hospital because of a tender, fluctuant mass in the left groin. This was incised and drained. The impression was that a draining sinus had developed in the left inguinal region, connecting with some lumen in the bowel, since fecal, purulent material was present. On 2/12/49, the day prior to consultation, Mrs. L. was taken to the operating room and a supravaginal hysterectomy, right salpingo-oophorectomy and resection of a segment of small bowel with end to end anastomosis was completed. The sigmoid colon was also resected and an end to end anastomosis done. It was apparent that the metastatic carcinoma from the ovary had involved the colon and small bowel. Five transfusions of washed red cells without apparent reaction had been given during surgery. Following operation the patient went into shock and put out 95 c.c. of brownish urine with a low specific gravity. Examination revealed a blood pressure of 75/60, a pulse rate of 90 with regular rhythm. The general appearance was not consistent with the amount of shock as indicated by the blood pressure level. Lungs were clear and there was no venous engorgement or evidence of peripheral edema. The mucous membranes were moist. The clinical impression was one of lower nephron nephrosis, the result of: 1. surgical shock, consequent to extensive abdominal surgery in a severely ill woman, and, 2. questionable reaction to transfusions of red cells. It was felt that the shock condition was perhaps due to, or aggravated by, a diminishing total blood volume, in view of replacement being made with washed red cells only. It was recommended that irradiated plasma be given in an attempt to increase total blood volume and better cardiac output.

The accompanying chart illustrates the problem and management of fluid balance in this patient.

On 2/18/49, the patient appeared comatose and had generalized twitchings and convulsive movements. An electrocardiogram at this time revealed no evidence of hyperkaliemia. The clinical impression was that she was suffering from alkalosis, since the tip of the Levine suction tube had remained mostly in the stomach, and was believed to have removed chloride in excess of sodium ions. This clinical impression was substantiated by a finding of 81 volumes % of carbon dioxide combining power. Since there was little abdominal distention it was decided to clamp off the Levine Tube with the hope that the alkalosis would improve spontaneously. The correctness of this assumption was manifested by a drop in the CO_2 combining power to 58 volumes % on 2/20/49. Since no digitalis preparations had been administered it was felt safe to treat the convulsions

with intravenous calcium gluconate. Some beneficial effect in allaying the convulsive twitchings was apparent. On the evening of 2/20/49, the patient's condition became critical, her color poor, pulse weak and thready, and she became disoriented and semi-comatose. A clinical diagnosis of hypochloremia was made which was substantiated by a finding of 400 mg.% of blood chlorides. Patient was given 500 c.c. of normal saline with apparent benefit. In retrospect, more correct treatment would have consisted of the intravenous administration of 3% sodium chloride. On 2/22/49, it was apparent that the kidneys had finally begun to let go. It is of interest that her lungs remained dry and clear throughout the whole course of oliguria. She continued to put out larger amounts of urine and gradually improved beyond any danger period. As long as 4 to 6 months later the specific gravity of the urine was still limited and the B.U.N. elevated, although there were no clinical indications to suggest a uremic state.

Day	*Urinary output*	*Suction drainage*	*Intravenous fluids*	*S. G. urine*	*B.U.N. and other chemistry*
1949 2/12	95 ml.	850 ml.	2000 ml. 5% glucose in D/W	urine brown Benzidine +	
2/13	85	1050	500 ml. blood 1000 ml. plasma 1000 ml. 5% glucose in D/W	1,002	
2/14	54	1250	1500 ml. 10% glucose	1,006	B.U.N. 37 mg.%
2/15	70	1100	1500 ml. 10% glucose	1,010	
2/16	95	750	1500 ml. 10% glucose		B.U.N. 50 mg.%
2/17	162	1100	1750 ml. 10% glucose in N/S	1,007	ECG normal T-waves and conduction
2/18	110	400	1000 ml. 10% glucose in D/W		B.U.N. 60 mg.% CO_2 81 vol.%
2/19	135		1500 ml. 10% glucose 50 ml. 50% glucose		
2/20	195	125	1750 ml. 10% glucose		CO_2 58 vol.% Chlorides 400 mg.%
2/21	360	185	1750 ml. 10% glucose		CO_2 46 vol.%
2/22	693	190	1750 ml. 10% glucose		B.U.N. 62 mg.% CO_2 52 vol.%
2/23	1060	750	1000 ml. 10% glucose in D/W 1000 ml. 10% glucose in N/S		
2/24	1485	375	2500 ml. 10% glucose in N/S	1,005	B.U.N. 75 mg.%
2/25	2445		3000 ml. 10% glucose in N/S	1,005	
2/26	2730	150	3000 ml. 10% glucose in N/S		
2/27	3475	100	250 ml. plasma 3000 ml. 10% glucose in N/S		B.U.N. 60 mg.%
2/28	3780		3000 ml. 10% glucose in N/S	1,005	
3/1	3455	375	3000 ml. 10% glucose in N/S	1,005	B.U.N. 58 mg.%
3/2	2700	350	2000 ml. 10% glucose in N/S		
3/3	2675	75	3000 ml. 10% glucose in N/S	1,007	
3/4	3170		2000 ml. 10% glucose in N/S 1275 ml. orally	1,005	
3/5	2475		2000 ml. 10% glucose in N/S 1425 ml. orally	1,005	
3/6	3000		2000 ml. 10% glucose in N/S 1775 ml. orally		B.U.N. 44 mg.%

Case Report
No. 2

Mrs. P. Mac. Patient first seen in medical consultation on 8/11/50. Review of history revealed that patient was 32 years old. Two days previously she gave birth to a healthy infant, this being her 6th pregnancy, the five previous having been uneventful. Other than unusual fatigue patient had no complaints during the last trimester of her pregnancy. Shortly after delivery she developed a severe uterine hemorrhage and went into surgical shock, undoubtedly from blood loss. When seen 36 hours following the hemorrhage she had voided 405 ml. of urine, only 160 of which were passed in the past 24 hours. During this period of time she had received 2,000 ml. of whole blood, 3,100 ml. of intravenous fluids, 1,000 containing D/W and 5% glucose, the remainder N/S and 5% glucose. In addition she had taken 2,920 ml. by mouth. Examination of urine specimen revealed considerable albumin, casts, and a positive test for occult blood. Examination revealed an exceedingly pale woman with labored respirations. Pulse was weak, although the rate was only 74 and regular. B.P. 88/60. No cyanosis present. Alert and reactive.

Generalized edema of a mild nature involving all of the body. Moist rales were heard throughout both lung fields. The abdomen was not distended. The diagnosis was that of a lower nephron nephrosis with early pulmonary edema. It was recommended that all salt and soda be omitted and all foods or fluids high in potassium be avoided. Methionine grams 1, 4.I.D. was suggested.

The accompanying chart reveals the fluid balance problem that ensued.

Two days later (13th of August), patient was given a transfusion of whole blood which had to be stopped after 275 ml. had run in, because of severe chills and febrile reaction.

There was a definite decrease in the number of moist rales in the chest and the patient was able to take nourishment by mouth. By the 14th of August the edema had decreased considerably and the rales had disappeared from the chest. On the 15th of August, an ECG revealed no evidence of hyperkaliemia. On this day patient complained of generalized numbness and tingling in hands and feet. Although electrolyte imbalance was considered a possible cause for these symptoms, it was considered that it might have resulted from the streptomycin being administered daily. In view of the definite danger of sepsis, since the uterus was packed to control the hemorrhage following delivery, it was felt imperative to continue the penicillin-streptomycin mixture in spite of the tingling. Since the other antibiotics are known frequently to irritate the gastrointestinal tract it was decided to avoid them, in order to not interfere with the important high caloric feeding by mouth. 30 ml. of 10% calcium gluconate were given intravenously in an attempt to benefit the numbness and tingling. This was considered safe since the patient was not digitalized.

On the 18th of August, a severe pain developed over the left kidney area following an infusion. Examination revealed diffuse tenderness over the left

Date	*Urinary output*	*Fluids by mouth*	*Intravenous fluids*	*Urine S. G. and albumin*	*Blood chemistry*
1950 8/11	160 ml.	575 ml.		1.018 1,000 mg. alb.	B.U.N. 30 mg.%
8/12	120	970		1.012 750 mg. alb.	B.U.N. 42.7 mg.%
8/13	265	1530	275 ml. blood	1.010 500 mg. alb.	
8/14	500	820	1500 ml. 10% glucose in D/W	1.010 1,000 mg. alb.	B.U.N. 54 mg.%
8/15	400	220	2000 ml. 10% glucose in D/W	1.010 1,000 mg. alb.	
8/16	1080	520	2000 ml. 10% glucose in D/W	1.008 200 mg. alb.	B.U.N. 50 mg.%
8/17	1390	1195	1000 ml. 10% glucose in D/W	1.005 200 mg. alb.	
8/18	1395	830	1000 ml. 10% glucose in D/W	1.006 300 mg. alb.	
8/19	2460	720	1000 ml. 10% glucose in D/W	1.006 250 mg. alb.	B.U.N. 75 mg.%
8/20	3020	1215	2000 ml. 10% glucose in D/W	1.006 100 mg. alb.	
8/21	2420	940			
8/22	2220	2190			
8/23	1950				
8/24	1210				
8/25	1575			1.008 150 mg. alb.	B.U.N. 72 mg.%
8/26	1590				
8/27	2600				
8/28	2300			1.006 200 mg. alb.	B.U.N. 73 mg.%
8/29	1900				
8/30	1750			1.008 175 mg. alb.	
8/31	2050				
9/1	1600				
9/2	1650				
9/3	1350				
9/4	1500				
9/5	1800				B.U.N. 65 mg.%

costovertebral area and left flank. The condition was considered to be pyelonephritis. The penicillin-streptomycin mixture was stopped at this point and aureomycin started.

As will be seen from the accompanying fluid chart patient's urinary output steadily increased after the 18th of August.

On the 1st of September a retrograde pyelogram was normal.

At no time during the severe oliguria did patient show signs of acidosis. ECG's on the 14th and 16th of August revealed normal T-waves.

When this patient was seen one year later there still was evidence of renal insufficiency as manifested by an elevated B.U.N. and albuminuria. It seems clear that in addition to a tubular lesion, this patient also suffered from some type of glomerular damage. In retrospect, it would have been proper to give this patient either more whole blood or washed red cells when first seen. The reaction to the transfusion that was given, however, made us hesitant in recommending more blood.

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A. M. A. Inaugural Ceremony Will Be Broadcast By ABC

The American Broadcasting Company radio network will carry the inauguration of Dr. Edward J. McCormick of Toledo, Ohio, as President of the American Medical Association on Wednesday night, June 3, it has been announced by A. M. A. headquarters in Chicago.

The inaugural ceremony at the 102nd Annual Session of the A. M. A. in New York City will be heard over more than 300 ABC stations in this country, Alaska and Hawaii. Except for some local variations because of station program schedules, the inauguration will be carried at 10.00-10.30 P. M. in the Eastern Time Zone and 9.00-9.30 P. M. in all other time zones.

The actual inaugural ceremony will take place Tuesday night, June 2, in the Hotel Commodore, but it is expected that practically all radio and television time that night will be disrupted by special news and film programs on the coronation of Queen Elizabeth. It therefore will be necessary to transcribe the program for a delayed broadcast on Wednesday night.

Also originating from the A. M. A. New York meeting this year will be the popular "Dr. Christian" radio program, featuring the well-known actor, Jean Hersholt. This program, which will be staged and transcribed Tuesday night one hour prior to the inaugural ceremony in the Grand Ballroom of the Hotel Commodore, also will be re-broadcast on Wednesday night. It will be carried by the Columbia Broadcasting System.

All physicians who will not be in New York for the A. M. A. meeting are urged to watch the radio listings in their newspapers for the local broadcasting times of the ABC inaugural program and the CBS "Dr. Christian" show, both on Wednesday night, June 3.

MYASTHENIA GRAVIS — A CASE REPORT

William C. Burrage, M. D., Portland, Maine*

No. 64901—This 58-year-old married fire engine driver was admitted to the Mercy Hospital because of muscular weakness in the neck and jaws of five months' duration. He had enjoyed good health with the exception of a compound fracture of the skull following a fall while on duty 11 years ago, and a transient right hemiplegia of 2 weeks' duration 4 years ago. This condition was thought to be secondary to a cerebral thrombosis, probably on an arteriosclerotic basis.

During the past year he had noted progressively increasing fatiguability following physical activity, which would improve with rest. These symptoms were least noticable in the morning, and became more marked in the late afternoon. Four months before admission he noted that he could not hold up his head at the end of the day and had difficulty chewing his food. At this time he thought dental disease was the cause and had his remaining teeth extracted. Following this procedure his symptoms became markedly worse. At the end of the day he had to hold his chin in his hand in order to keep his mouth closed, his head up, and to help masticate even soft food. For the past two months he had noted increasing difficulty in swallowing both solid foods and fluids which, although minimal in the morning, prevented him from eating after noontime. He would go to bed on returning from work at 5 in the afternoon so that he could go to work in the morning. He always rode to and from work because of the great fatigue it produced. In six months he had lost 20 lbs. in weight. He denied any eye symptoms such as drooping of the eyelids or double vision, but felt his voice was weaker in the evening. The remainder of the system review was negative.

On the day of admission, about 2 o'clock in the afternoon, he had found it necessary to stop the fire engine while answering an alarm, because he was so weak that he was unable to operate the steering wheel of the heavy engine. He was replaced by the assistant driver and continued to the fire.

Following this episode he sought medical attention at my office and was immediately hospitalized for study.

On admission the facial features were strikingly abnormal. The mouth was open, the head flexed forward on the chest. The face was expressionless, but there was no atrophy. The eyes were normal. The pupils were equal and reacted to light and to accommodation. The fundi were normal. Swallowing water caused regurgitation of the fluid through the nose and great exaggeration of the swallowing motions. The heart, lungs, abdomen and extremities were normal. The blood pressure was 132/80. Neurological examination was not remarkable except as noted above. Reflexes were present and did not show fatigue on repetition, nor did continued hand grasping tire appreciably.

A tentative diagnosis of myasthenia gravis was made. Bulbar and pseudobulbar palsy to be ruled out.

All laboratory studies were normal. These included routine blood, urine, sugar, Hinton, spinal fluid, Wassermann, gold sol curve, protein and cytology. Skull X-rays were normal. A bulbar-type paresis of the swallowing reflex was noted in a barium study. There was no X-ray evidence of a thymus gland.

Within 10 minutes after a subcutaneous injection of 1.5 mgm. neostigmine methylsulfate and atropine there was a complete return of all functions of jaw and neck muscles, and swallowing of both fluids and solids were normal for the first time in 4 months. Within one hour the effects had worn off.

Two other trial doses were likewise strongly positive for a diagnosis of myasthenia gravis. Oral prostigmine hydrobromide was then started following the method of Viets[1] at 2 and 3 hourly intervals. A total of 15-18 15 mgm. tablets daily have allowed this patient to return home and eat normally for the past 6 weeks. Two weeks ago ephedrine sulfate gr. 3/8 had been added three times daily after meals. Although there appears to be a good response, the ultimate prognosis is grave.

Discussion:

The recent developments in the pathophysiology of myasthenia gravis have been reviewed recently by Schlezinger.[2] Although the exact cause is unknown, the present hypothesis placed emphasis on the impaired synthesis of acetylcholine at the myoneural junction. Perhaps metabolic or endocrine dysfunction may be responsible through the production of a substance which possibly interferes with the synthesis of acetylcholine or possibly is curarizing in its action.

The earlier assumption that inhibition of cholinesterase by neostigmine enables the action of acetylcholine to be prolonged at the myoneural junction, became the basis of the specific diagnostic test of parenteral neostigmine with atropine of Viets and Schwab,[3] and of the oral use of neostigmine as the drug of choice in treatment.[1, 2, 4]

The treatment of myasthenia gravis is by necessity

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individualized, and the schedule is best determined by the use of a dosage chart as suggested by Viets.[1] Neostigmine bromide in 15 to 60 mgm. doses is given at intervals usually 2 or 3 hours apart in such a way as to obtain the greatest beneficial effect in terms of physical activity and nutritional requirements. In severe cases parenteral doses of neostigmine may be used when need is greater such as prior to eating, greater than usual physical exertion, or in an acute respiratory crisis. The unpleasant side effects of neostigmine such as nausea, abdominal pain or diarrhea may be controlled by the simultaneous administration of belladonna orally.

The effectiveness of neostigmine may be enhanced by the use of oral ephedrine sulfate in 25 mgm. doses two or three times daily. Potassium salts and guanidine have been used, but discarded because of toxic effects from the large doses required.

Viets and Brown[4] have reviewed recent work with new cholinesterase inhibitors in the treatment of myasthenia gravis. These are namely di-isopropylfluorophonate (D.F.P.); tetraethyl pyrophosphate (T.E.P.P.); and octamethyl pyrophosphoramide (O.M.P.A.). The first two cannot be considered as valuable or reliable drugs for the routine treatment because of toxic effects and dosage variables. The last (O.M.P.A.), is taken in oral doses twice a day and seemed helpful in a small series of cases in those not improving on neostigmine. This drug has not had sufficient trial for its complete evaluation, although it is presently being studied at the Myasthenia Clinic at the Massachusetts General Hospital.[5]

In reference to the suspected endocrine factors in this disorder, the following conditions appear to suggest their presence and serve as a basis for surgical and corticotropin therapy (ACTH):

1. The surgical removal of the thymus gland as a part of treatment brings about variable rates of remissions said to be 45 to 65 per cent.[4]

2. 10-15 per cent of the thymectomy specimens show the presence of neoplasms (thymomas). Some of these are malignant, but there are no reported metastases however.

3. An occasional remission had been noted during pregnancy.

4. An occasional concurrence of myasthenia gravis with hyperthyroidism has been reported.

In regard to thymectomy, Schlezinger[2] reports that the literature has varied somewhat in their conclusions on its value in this disease. He agrees with Eaton and Clagett[6] that there is no statistical basis for enthusiasm for thymectomy. He advocates that all patients with clinically demonstrable thymus tumors be operated upon. He includes a few patients who appear inadequately controlled by neostigmine after a sufficiently long period of observation, and who are not benefited by corticotropin (ACTH) therapy. He feels that since spontaneous remissions are a well known feature in the disease, surgery should be deferred in early cases, and avoided in the desperately ill ones because of higher mortality.

The ultimate therapeutic benefits of corticotropin remain undetermined, but Schlezinger[2] reports there appears to be a favorable "rebound" improvement starting 72 hours after cessation of treatment. Relapses do occur frequently and the repetition of the drug seems to be less effective. Cortisone is of no value.

In the rare case of accompanying hyperthyroidism, medical treatment by thiouracil derivatives or radioactive I_2 is desirable to surgery, but is not always followed by improvement in the myasthenia.

Myasthenia patients are very susceptible to the effects of curare, quinine and quinidine, and these must not be used except as a somewhat dangerous provocative test.

Summary:

A case of myasthenia gravis is presented. The diagnosis was made by a dramatic response to a parenteral dose of neostigmine. The treatment of choice is oral neostigmine bromide and ephedrine sulfate given in doses and at intervals which keep the patient effective.

Newer anticholinesterase drugs, thymectomy, and corticotropin therapy used in the treatment of myasthenia gravis are discussed.

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A MODERN CONCEPT OF THE TREATMENT OF COMMON EXTERNAL DISEASES OF THE EYE*

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Most of the common external diseases of the eye are seen and treated by the general practitioner. In this day of hormone medication and multiple bactericidal and bacteriostatic agents the hoary custom of prescribing yellow oxide of mercury ointment and boric acid solution for all external diseases of the eye is no longer warranted. The proper treatment entails a careful evaluation of the disease complex and the prescription of the proper chemotherapeutic agents.

Insofar as is practical a primary step in the correct diagnosis is the taking of smears, scrapings and cultures. A tightly wound cotton applicator may be used in making a smear of the conjunctival secretion. It is important, however, to realize that the lid margin is frequently the source of the conjunctival infection. An epithelial scraping of the lid margin is, therefore, of first importance. Such a scraping from the bed of a corneal ulcer or other area of maximal disease activity is also warranted. A useful instrument for the taking of scrapings is simply constructed from a piece of 13 gauge platinum wire, one end of which has been pounded into the shape of a spatula. Such a wire can easily be sterilized in the flame of a bunsen burner.

Having made the smear one allows it to dry, fixes it by passage over a flame and stains it according to Gram's method, utilizing the Hucker modification. This procedure will reveal the presence or absence of organisms and the staining characteristics of those that are present.

Much valuable cytologic information is obtained by staining the scrapings with either Wright's stain or preferably Giemsa's stain. An appreciation of this fact is obtained by examination of the following outline modified from J. W. Hallett:

I. Polymorphonuclear cells are present in:
   1. Bacterial infections with the exception of the Diplobacillus of Morax-Axenfeld and the Neisseria catarrhalis, which are characterized by fibrinous exudates.
   2. Fungous infections, i.e., streptothrix.
   3. Certain atypical virus infections, i.e., trachoma, inclusion conjunctivitis and lymphogranuloma venereum.

II. Mononuclear cells are present in:
   1. Herpes simplex conjunctivitis.
   2. Epidemic keratoconjunctivitis.
   3. Acute follicular conjunctivitis, type Béal.
   4. Molluscum contagiosum conjunctivitis.
   5. Verruca vulgaris conjunctivitis.

III. Eosinophiles (and basophiles) are found in:
   1. Vernal catarrh.
   2. Hay fever conjunctivitis.
   3. Pemphigus.
   4. Various drug and cosmetic allergies, except eserine and pilocarpine sensitivity (toxic reaction), and bacterial allergies.

IV. Plasma cells occur in trachoma.

V. Cytoplasmic inclusion bodies are present in:
   1. Trachoma.
   2. Inclusion conjunctivitis.
   3. Lymphogranuloma venereum.

VI. Keratinized epithelium occurs in:
   1. Keratoconjunctivitis sicca.
   2. Vitamin A deficiency.
   3. Normal epithelium of lid margin.

Blood agar plates are used routinely for the taking of cultures unless one suspects the need for special media, i.e., chocolate agar for gonococcic infection or Loeffler's medium for diphtheria. The material to be cultured is taken from the lid margin as well as the conjunctiva, utilizing a swab wet with 1% glucose broth. (The use of a dry swab causes many negative results.) The plate may be divided into quarters and each quadrant, in turn, inoculated with material from the right lid margin, the right conjunctiva, the left lid margin and the left conjunctiva, respectively.

One should know whether there are few colonies or many. If the organism is a staphylococcus, it is important to learn whether it is hemolytic or nonhemolytic, albus or aureus, coagulase-positive or coagulase-negative. The coagulase test is about 98% reliable. Another valuable test in differentiating pathogenic from non-pathogenic strains of straphylococci is the mannitol fermentation test which is 90% reliable.

In addition to bacteriologic and cytologic studies, or, perhaps, in lieu of such procedures where they are not feasible, a careful evaluation of the clinical findings is of utmost importance. An alert examiner will note chemosis of the bulbar conjunctiva, which is an early sign of gonococcic conjunctivitis; petechial hemorrhages of the bulbar conjunctiva, which indicates infection with Hemophilus influenzae or the Koch-Weeks bacillus (occasionally, however, small petechiae are present in pneumococcic infections); marginal corneal infiltrates or punctate epithelial staining with symptoms of pain especially in the

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morning, which is suggestive of infection with staphylococci; angular inflammation in cases of blepharoconjunctivitis, indicating infection with the Morax-Axenfeld bacillus; greasy scales of the cilia with similar scalp involvement, which indicates seborrheic (pityrosporum ovale) blepharitis; and blepharitis characterized by the formation of adhesive scales on the lids, ulcers at the bases of the cilia and meibomitis, which indicates staphylococcic infection.

It may be of value to discuss some of the more common external diseases.

Blepharitis is probably the principal lid margin infection seen in practise. On clinical grounds one can divide blepharitis into two types: (1) squamous; characterized by hyperemia of the lid margin and scales and (2) ulcerative; characterized by pustules and small ulcers at the bases of the cilia, and epilation upon very slight traction. Ulcerative blepharitis is almost invariably caused by the staphylococcus whereas squamous blepharitis may be either staphylococcic or seborrheic. Very occasionally non-ulcerative blepharitis may be caused by the Diplobacillus of Morax-Axenfeld. Unfortunately many cases of blepharitis are of long duration and refractory to treatment. In addition to local therapy one not infrequently, in the case of staphylococcic infection, must utilize a course of desensitization with staphylococcus toxoid, Lederle dilution #2. Treatment, in general, involves daily expression of the Meibomian glands, cleansing of the lid margins twice daily with a sterile cotton swab moistened with water and the application of suitable medication. In the case of staphylococcic infection sodium sulfacetamide ointment, bacitracin ointment or terramycin ointment applied to the lids every 3 or 4 hours during the day is very effective. Terramycin ointment is also frequently effective in diplobacillary infection. If necessary, the latter may be treated successfully by painting the lid margins 3 times daily with a solution of zinc sulfate, one-half grain to the ounce of boric acid. Seborrheic blepharitis responds well to frequent topical applications of 5% propion solution. Seborrhea of the scalp, brows and external auditory canals must be treated concomitantly.

Touching upon the conjunctivitides we shall first mention *hyperacute or purulant conjunctivitis,* characterized by severe inflammatory signs and copious purulant exudation. The principal cause is the gonococcus although another important culprit is the meningococcus. Both organisms are gram-negative, intracellular diplococci. The one organism is socially acceptable whereas the other is decidedly not. A differentiation between the two is of prime importance if only for this reason. Positive identification can only be made by culture. The treatment of both types is by means of sulfonamides, particularly sulfathiazole, orally, or by pencillin, intramuscularly. Included in this group is *ophthalmia neonatorum.* Although the gonococcus is by far the most common offender in this latter type, the cause not infrequently is the pneumococcus, the influenza bacillus, the staphylococcus aureus or the virus of inclusion conjunctivitis. Inasmuch as the newborn does not develop tearing until the third week of life, local medication only is sufficient. All of these organisms respond to the sulfonamides. A good agent is 30% sodium sulfacetamide solution instilled every hour during the acute phases and less frequently as the infection comes under control. Since pus tends to inhibit the anti-bacterial action of sulfonamides, the solution has the advantage over an ointment of washing away some of the exudate at the moment of instillation. Parenthetically, we might add that where there is a choice between topical sulfonamide and penicillin, we prefer the former inasmuch as the latter not infrequently causes a generalized sensitivity to the agent.

Let us next mention briefly *catarrhal conjunctivitis,* distinguished by an exudate containing a higher proportion of mucus in relation to leukocytes, a milder course and few, if any, sequelae. There are two broad classifications of this group into *acute and subacute catarrhal conjunctivitis* and *chronic catarrhal conjunctivitis.* A clinical sign of help in differentiating a severe case of catarrhal conjunctivitis from gonorrheal ophthalmia is relative sparing of the upper tarsal conjunctiva in the former with intense, essentially uniform involvement in the latter.

The most common causes of *acute and subacute catarrhal conjunctivitis* in their relative order of frequency are the pneumococcus, the Koch-Weeks (typical "pink eye")—influenza group, the streptococcus viridans and the staphylococcus aureus. Except for the staphylococcus type of the disease, acute catarrhal conjunctivitis is almost always self-limited, healing in 7-10 days. Effective treatment will, however, shorten the course in all types and will frequently cure the staphylococcus infection. A very good therapeutic agent, again, is sodium sulfacetamide, either as the 30% solution or the 10% ointment.

Chronic catarrhal conjunctivitis is, without question, the most common eye infection seen in practise. Clinically, there is present chronic conjunctival hyperemia and some mucoid secretion, and, characteristically, the eyes feel worse in the morning. The picture varies, however, according to the etiologic type and in this group, especially, one must be cautious about ascribing significance to organisms seen in smears or found in cultures. Some significant predisposing factors are dust, smoke, insufficient rest and refractive errors. The most common bacterial agents are the Staphylococcus aureus and the diplobacillus of Morax-Axenfeld. Much less frequent causes include the Neisseria catarrhalis, Escherichia coli, the

proteus group and streptococci. As in the case of refractory blepharitis, chronic staphylococcic conjunctivitis is frequently very resistant to treatment. In addition to mechanical cleansing of the lid margins, daily expression of overactive and infected Meibomian glands, and the use of sodium sulfacetamide, a course of immunization with staphylococcus toxoid (if necessary combined with the vaccine) is sometimes required. A frequently successful procedure is the conjunctival instillation of 0.25% zinc sulfate three or four times daily and painting the eyelid margins with 1% silver nitrate once or twice weekly.

This treatment with zinc sulfate and silver nitrate is also effective in diplobacillary conjunctivitis.

In this brief discussion we should also include a few words concerning herpes simplex of the cornea. This disease is usually characterized by typical dendritic corneal lesions upon staining with fluorescein. An almost uniformly successful treatment consists of anesthetizing the cornea with ½% pontocaine and rubbing away the epithelium with a pointed applicator tightly wound with a wisp of cotton; the prepared applicator having been previously dipped in a freshly prepared solution of 7% tincture of iodine. The eye is then flooded with 5% cocaine solution which allays pain and converts the iodine into an insoluble compound, cocaine iodate. The critical feature is rubbing firmly to the level of Bowman's membrane and the extension of this procedure to uninvolved surrounding area. Following treatment atropine is instilled to alleviate ciliary spasm and the eye is tightly bandaged. Hypnotics are usually required to relieve pain for the following few hours.

Another treatment which is successful in about 60% of cases is the instillation of 0.5% aureomycin borate solution every ½ hour day and night. Recovery occurs in 4 to 7 days. If the lesion fails to respond, the more drastic treatment with tincture of iodine should be performed.

Let us now briefly consider some of the newer chemotherapeutic drugs and their advantages as local agents.

Penicillin

The effectiveness of penicillin in certain external ocular infections is well established. It is most useful in staphylococcic infections, less in inflammations caused by gonococci and least in streptococcus infections. It is practically noneffective in pneumococcus infections. Penicillin, locally, is inactivated by adrenaline. The dosage is usually 1,000 to 10,000 units per c.c. or gram. Because of a tendency towards generalized sensitization, we prefer other agents.

Sulfa Drugs

1. Sulfanilamide either as a 5% ophthalmic solution or a 5% ointment is most effective in streptococcic infections.

2. Sulfathiazole, in similar dosage, is especially effective in staphylococcic infections.

3. Sulfadiazine, in the same dosage, is equally effective in streptococcus, staphylococcus and pneumococcus infections. This sulfa drug penetrates the corneo-aqueous barrier very well.

4. Gantrisin as the 4% solution or the recently released 4% ointment is quite effective in streptococcic, staphylococcic and pneumococcic infections. It does not cause burning or stinging in the inflamed eye.

5. Sodium sulfacetamide is very effective in infections due to streptococcus, staphylococcus and pneumococcus and the viruses of molluscum contagiosum, trachoma and inclusion blennorrhea. It is ineffective, however, in infections due to the bacillus of Morax-Axenfeld. This agent is available as a 10% ointment or a 30% solution. This strength of solution causes a white precipitate on the lid margins which, although slightly disturbing cosmetically, is of only transitory significance. A more important consideration is the burning sensation caused by the solution. These two factors, however, can be obviated by the employment of a solution composed of equal parts of 30% sodium sulfacetamide and 1% methyl cellulose in Ringer's solution. Such a solution is essentially as effective as the stronger mixture.

Streptomycin

Present knowledge concerning the use of streptomycin topically is limited and inconclusive. It has, however, been recommended in the strength of 10,000 units per c.c. or gram for the treatment of external diseases due to Hemophilus influenzae, H. conjunctivitis (Koch-Weeks b.), H. lacunata (Morax-Axenfeld b.), the coliform group, Bacillus proteus and Pseudomonas aeruginosa. To digress somewhat, it may be noted that two cases of tuberculosis of the conjunctiva have been reported as responding favorably to treatment with streptomycin. In one case the local treatment was combined with intramuscular streptomycin and in the other the intramuscular route alone was utilized.

Bacitracin

This excellent therapeutic agent is available as either a solution or an ointment in the strength of 1000 units per c.c. or gram. It is highly effective against most gram-positive organisms including many strains of staphylococci and streptococci resistant to penicillin. Although gonococci and meningococci are very susceptible to this agent it is quite inactive against most pathogenic gram-negative organisms.

Polymyxin B

This comparatively new agent is available both as a solution and as an ointment. It has been advocated as a bactericidal agent in the treatment of gram-negative infections, but this needs further evaluation. Recently both favorable and unfavorable reports have been published concerning its efficacy in corneal infection caused by pseudomonas aeruginosa organisms. In view of the uniformly poor prognosis of ocular infections with pseudomonas aeruginosa strains despite all treatment heretofore, a vigorous trial with polymyxin is certainly indicated. The essential features are early (within a matter of hours) and frequent applications. The eye will tolerate solutions in the strength of 0.25% to 0.50% topically. Solutions of 0.1% may be injected subconjunctivally without pain to the patient.

Polysporin, an ointment containing 10,000 units of polymyxin B and 500 units of bacitracin to the gram, has recently been made available. This is an ideal combination for prophylactic use following the removal of corneal foreign bodies.

Aureomycin

The use of this substance in dendritic ulcers of the cornea has been mentioned. It is also recommended for other virus infections of the eye as well as for infections due to hemolytic streptococcus, staphylococcus, pneumococcus, gonococcus, pyocyaneus bacillus, Morax-Axenfeld bacillus, meningococcus, H. influenzae, Koch-Weeks bacillus, the coliform group and B. proteus. It is available as a ½% solution or a 0.1% ointment.

Terramycin

Available as either an ointment or a solution in the strength of 5 mgm. per gram or c.c., this agent has proved very effective against pneumococci, streptococci, staphylococci, Morax-Axenfeld bacilli and Koch-Weeks bacilli.

Chloramphenicol

Chloromycetin, as either a ¼% solution or a 1% ointment, has proved effective against a wide range of bacterial organisms including hemolytic staphylococcus, hemolytic streptococcus, influenza bacillus, Koch-Weeks bacillus, Morax-Axenfeld bacillus, bacillus proteus and the coliform group. It is difficult to imagine that aplastic anemia or other toxic effects can result from topical application and none have been reported.

Neomycin

This agent is available as a 0.5% ointment under the trade name, "Myciguent." It is said to be effective against a wide range of both gram-negative and gram-positive bacteria. Further study is, however, necessary before its use can be evaluated.

Cortisone

This potent, synthetic hormone while having essentially no antibacterial activity itself is very effective in combatting the inflammatory response to infection, either local or focal. This agent has been remarkably successful in aborting acute attacks of phlyctenular keratoconjunctivitis, still a major cause of visual disability throughout the world.

Phlyctenulosis is considered to be an allergic manifestation of a tuberculous infection elsewhere in the body and occurs principally in childhood.

Other external diseases which have responded well to treatment with cortisone are allergic conjunctivitis, nonspecific keratitis, acne rosacea keratitis, epidemic herpes zoster with keratitis and lime burns of the cornea and conjunctiva.

In serious external diseases due to bacterial infection cortisone may be used in conjunction with specific antibacterial agents. Cortisone while apparently not interfering with the action of these drugs helps to diminish the intensity of the inflammatory signs, thus favoring the course of healing. In such conjugate therapy it is advisable to continue the specific medication a few days after discontinuance of the cortisone.

Systemic administration of cortisone is not indicated in the treatment of external diseases. Topical administration of the ointment (1.5%) or the suspension, available in 0.5% and 2.5% strengths, or subconjunctival injection of the 2.5% suspension in amounts varying from 0.1 c.c. to 0.6 c.c. is effective.

Conclusion

The importance of smears, scrapings, cultures and careful clinical observation have been emphasized in the correct diagnosis of external diseases of the eye. Some of the more common external diseases have been described. The advantages of various chemotherapeutic agents have been outlined.

In our experience many of the common external diseases respond very well to sodium sulfacetamide either as the 10% ointment or the 30% solution. If Pseudomonas aeruginosa (pyocyaneous bacillus) is suspected as the etiologic agent, one should employ polymyxin B with vigor. Treatment with this agent to be successful must be started early, within a matter of hours, and in the dosage of a 0.25% or a 0.50% solution, topically. If necessary a 0.10% solution may be injected subconjunctivally.

Prophylactically, following the removal of a corneal foreign body, the combination of bacitracin (effective against gram-positive organisms) and polymyxin B (effective against gram-negative organisms) is ideal. Such a preparation is Polysporin ophthalmic ointment.

Continued on page 111

PRIMARY URETERAL TUMORS

Presenting Three Cases

Donald F. Marshall, M. D., and Gerald C. Leary, M. D., from the Mercy Hospital, Portland, Maine

Primary tumors of the ureter have generally been considered to be rare. However, in the past few years numerous cases have been reported. In 1943, W. W. Scott[1] of the University of Rochester, in an excellent and thorough review of this subject, reported a total of 182 cases in the literature up to that date. He also included an extensive bibliography. A recent report by Senger and Furey show an additional 130 cases since Scott's paper, thus bringing the total number to 312 as of May, 1951. Doubtless there are many other cases which have never been recorded.

These increasing reports indicate a growing number of men, especially trained in urological surgery who are alert to make this diagnosis. It also indicates the use of refinements of instruments and techniques both in the laboratory and in roentgenology.

It should be stressed that patients are usually referred to urologists from other physicians. It is encouraging to note that more doctors are becoming very concerned on finding either gross or microscopic blood in the urine of a patient. It is then the duty of the doctor to see that his patient receives a careful and complete study for all possible causes of the blood. If no cause is found, the studies should be repeated in another 3 months and repeated at other times if necessary. It is only by these careful studies that some early tumors will be found.

The 3 most common symptoms in primary tumors of the ureter are hematuria, pain and the presence of a tumor mass.

The hematuria may be microscopic or profuse. It may occur early or late. It may be associated with renal colic and the passage of worm-shaped ureteral casts, or it may be painless.

The pain may be due to obstruction of the ureter resulting in renal colic or pain along the course of the ureter. The pain may be more constant and diffuse if there is extension or metastasis to other structures.

The tumor mass may be difficult to outline distinctly, particularly if it lies just below the brim of the pelvis. Rectal or vaginal palpation under anesthesia then of course might be helpful.

X-ray studies leave one in doubt of the diagnosis if there is little or no excretion of the dye by intravenous methods. If there is a constant filling defect present in the ureter with opaque media the diagnosis is fairly straight forward and easy.

Case Reports

Case I. C. M., M. H., No. 65,244. Age 51. The patient first noted blood in his urine late in 1950. He had a cystoscopy and retrograde study done in February, 1952, by another urologist. Retrograde pyelograms at that time (Fig. 1) show what appears to be additional renal substance in the upper pole of the right kidney. No cause for the blood was found and nothing further was done. The patient continued to pass blood. In January, 1953, the patient showed nothing on physical examination and was again cystoscoped. The right ureter was catheterized and a pyelogram obtained (Fig. 2). It was felt that he had a double kidney and double ureter. With the filling defect present in the lower end of the hydroureter the possibility of a primary tumor in this ureter was strongly suspected. Intravenous pyelograms were obtained the following day. The preliminary film (Fig. 3) shows a retention of the dye from the retro-

Fig. 1
Additional kidney tissue present at upper pole of right kidney.

grade study of the previous day. The double kidney and ureter with the filling defect is brought out nicely in (Fig. 4). A nephro-ureterectomy was done a few days later removing the double kidney and both ureters along with a generous cuff of the bladder. These ureters were adherent to each other at the site of the tumor and joined just distal to the tumor area (Figs. 5 and 6), before entering the bladder. The patient made an uneventful recovery. The pathological report was as follows: Examination of the specimen disclosed the two ureters joining close to the bladder. One ureter was normal in diameter and was entirely normal grossly and microscopically. The other ureter was considerably dilated measuring up to 1.5 cm. in diameter. Arising 2 cm. proximal to the junction of the two ureters was a large soft papillary tumor completely filling the lumen of the dilated ureter. The tumor was 3 cm. in length. Distal to the tumor were areas of gray thickening of the mucosa grossly suggesting leukoplakia. This change in the mucosa extended very close to the bladder. At the time of surgery a frozen section from the ureter near its junction with the bladder was reported as showing either carcinoma in situ or precancerous epithelial hyperplasia. For this reason a generous cuff of bladder was removed. The portion of the kidney drained by the obstructed ureter was hydronephrotic and microscopically that portion of the kidney was affected by extensive acute pyelonephritis. The ureteral tumor was papillary in character being composed of stratified transitional cells showing considerable pleomorphism. However the tumor was superficial and did not invade into the wall of the ureter. The gray patches distal to the tumor showed pleomorphism of the transitional cells suggesting precancerous hyperplasia. The cuff of bladder was normal.

Case II. L. G., M. H., No. 62,057. Age 47. The patient was first admitted to the Mercy Hospital in July, 1952. The patient had been under treatment in another city for 17 months for an infection of the urinary tract. He had noted smoky urine with flecks of blood in it. He had abdominal discomfort suprapubically and had lost 15 pounds. The urine was loaded with pus cells. Cystoscopic study showed no pathology in the bladder. The right ureter could not

Fig. 2
Hydronephrotic upper portion of right double kidney with incomplete filling of lower end of the ureter.

Fig. 3
Plain film of abdomen the following day showing retention of the dye in the kidney.

be catheterized but a catheter passed to the left kidney without difficulty and a normal kidney and ureter found on that side. Intravenous pyelograms showed no function on the right side. A right nephrectomy was done July 25, 1952. The specimen is pictured (Fig. 7). The pathology report was as follows: The pelvis of the kidney was dilated and filled with white amorphous material resembling crabmeat. This material floated about in the urine distending the pelvis. The capsule of the kidney was thickened. The kidney tissue was thinned out by the dilated calyces. Scattered throughout the renal tissue were many soft orange nodules.

Microscopically the entire pelvis and the portion of ureter attached to the specimen showed a metaplasia of the normal transitional epithelium to orderly stratified squamous epithelium covered by masses of keratin. Numerous sections failed to reveal any malignant change in the epithelium. The orange nodules in the renal substance were foreign body granulomatous reactions to keratin. Many lipophages were present in these regions. Chronic pyelonephritis was also present. Final diagnoses were: Dilatation of ureter, pelvis and calyces with squamous metaplasia of the pelvic epithelium, chronic pyelonephritis, chronic granulomatous inflammation of kidney due to keratin.

The patient was allowed home to have the ureterectomy at a later date. While at home he developed a severe thrombophlebitis of the entire right leg which made it impossible to do the ureterectomy until October 14, 1952. An inoperable situation was found. The entire lower ureter and pelvis was involved with carcinoma. A biopsy was obtained. The pathology report was as follows: The ureter was markedly thickened at its distal end due to friable tissue in the wall resulting in a narrowing of the lumen. The proximal portion had a dilated lumen filled with white cheesy material. Microscopically the wall of the lower portion of the ureter was infiltrated by large masses of pleomorphic and anaplastic squamous cells with the formation of some epithelial pearls. The proximal portion was lined by orderly squamous cells producing large amounts of keratin. Pathologic diagnosis was Epidermoid carcinoma, Grade 2, of ureter, squamous metaplasia of ureteral mucosa. The patient died a few weeks later.

Fig. 4
Double kidney and ureter demonstrated following intravenous dye. Arrow points to filling defect in dilated ureter.

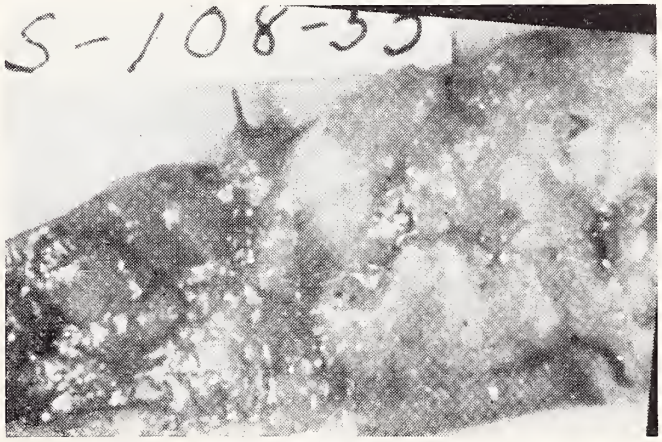

Fig. 5
Close up of tumor in the ureter.

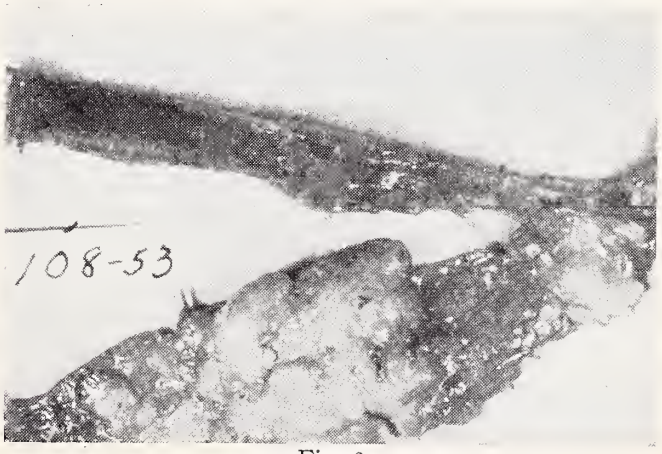

Fig. 6
Point of union of two ureters.

Case III. J. W., M. G. H., No. 92,712. Age 60. The patient was first admitted to the Maine General Hospital in June, 1950. He first noticed blood in his urine in 1947, but failed to do anything about it. In 1949, he went to his doctor for an examination for the first time. His doctor, however, was unable to persuade him to have a complete examination made. He later admitted that he was afraid of what would be found. In June of 1950, he again went to his doctor because of pain in his left flank, back and groin and agreed to a complete study in the hospital.

He was cystoscoped the same month. The left ureter could not be catheterized. No blood or urine was seen coming from the left orifice. The right side catheterized easily and was normal. No pathology was found in the bladder. An intravenous pyelogram showed no function on the left side. He was a somewhat stout person and no definite mass was felt. Early in July a left nephrectomy was done. There was a large amount of indurated perinephric fat which was removed along with the kidney. In addition there was a large amount of old blood present in the perinephric area. The pathology report of the kidney showed only focal infarction and hemorrhage. The fat and fibrous tissue showed no tumor. He was cystoscoped on August 8, 1950. A trickle of old blood was seen streaming from the left orifice. A Papanicolaou stain was done and tumor cells, class IV, were found. He would not consent to surgery on the lower end of the ureter until September 8. When the remaining portion of the ureter was exposed it was dilated to about 6 cm. in diameter and filled with old blood. The ureter was dissected downward and tumor encountered just below the brim of the pelvis. From that point on there was marked involvement of the tissue surrounding the ureter, extending to the promontory of the sacrum. The pathology report of tissue taken from over the promontory of the sacrum, as well as from the ureter itself, showed transitional cell carcinoma. He received 4,500 R units of deep therapy at the Memorial Hospital in New York with the million volt unit. His course, however, was steadily downward and he died in May of 1951.

Summary

Primary tumors of the ureter are no longer as rare as previously considered.

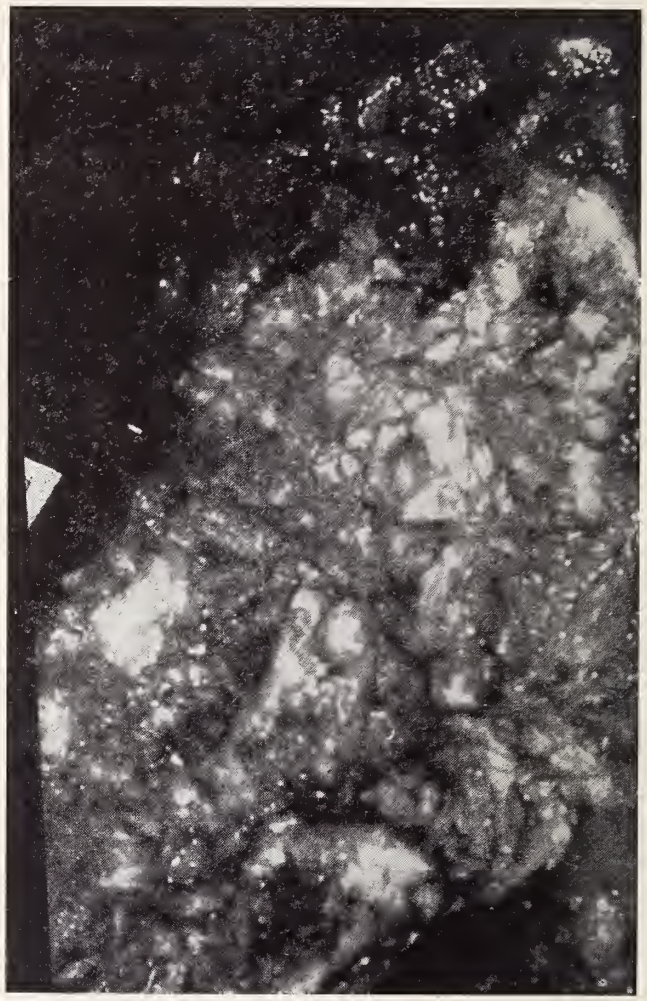

Figure 7.

The total number of cases reported as of May, 1951, is 312. The most common symptoms in primary ureteral tumors are hematuria, pain and the presence of a tumor mass.

Nephro-ureterectomy with excision of a cuff of the bladder whenever possible is the treatment of choice for primary tumors of the ureter.

Emphasis is placed on having physicians become more conscious of the importance of finding microscopic as well as gross blood in the urine of their patients and following them through to a satisfactory conclusion.

References

1. Scott, W. W.: J. Urol., 50:45, 1943.
2. Senger, F. L., and Clement, F. A., Jr.: J. Urol., 69:243, 1953.

INTRAVENOUS ANESTHESIA IN SURGERY

Onil B. Labbe, M. D., and Armand Albert, M. D., Van Buren, Maine*

For several years we have employed intravenous anesthesia in minor surgery and in induction for major surgery. In the last two years we have been using intravenous anesthesia solely in the majority of our major cases. We have found it especially efficacious in D & C's for incomplete abortions. In one outstanding case of abortion the patient was admitted in a state of shock, semiconscious, pulseless, and still flowing; she made an uneventful recovery following curettage and blood transfusions.

In Caesarean sections the baby usually cries within a couple of minutes after delivery and does very well.

Elderly patients seem to tolerate intravenous anesthesia better than other types of general anesthesia. One elderly man had a spinal for a cystostomy in the first stage of a suprapubic prostatectomy. Even though he was given adrenalin and stimulants the patient did go into moderate shock. In the second stage of the prostatectomy intravenous only was administered. Although this stage is more shocking the patient stood the operation much better. He did not suffer any fall in blood pressure, did not become pale, cold, or clammy and did not require any supportive measures.

Recently a subtotal hysterectomy and a pan-hysterectomy were done under intravenous anesthesia only with excellent postoperative results.

Our age group has been from ten years up; but probably this anesthesia could be employed in younger patients.

Method of Administration

We give the ordinary preoperative sedation except in rush cases or in Caesarean sections where no preoperative medication is used. Oxygen is given through a nasal catheter during the operation. We employ pentothal, never more than two ampoules of 15 grains each. A solution is made consisting of one ampoule dissolved in 20 c.c. of sterile water. In the first two minutes 5 c.c. of this solution is given. At this time a period of apnea ensues. This usually lasts about two minutes and then normal breathing is resumed. Another 5 c.c. is given within the next five minutes then just enough is given at will to keep up the relaxation and the normal respiration.

This method probably sounds unscientific but it is unsatisfactory to gauge the dosage on age or weight. Incidentally we do not find the pupillary or conjunctival reflexes at all reliable.

Untoward Effects

1. Period of apnea in the induction period.
2. Occasional generalized coarse tremors of the body. These disappear with an additional 4 c.c. of the solution.

Advantages

1. It is safe. No mortality so far, and no intratracheal intubation required.
2. Very little postoperative shock—usually none.
3. No postoperative vomiting.
4. The patients prefer this type of anesthesia.
5. It saves time for the operative room staff.

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Dr. Labbe graduated from Georgetown University School of Medicine, Washington, D. C., in 1935. He interned at the Maine General Hospital, Portland, 1935-36, and took a postgraduate course in surgery at New York Polyclinic Hospital, New York City, in 1938.

MEDICINE AND THE LAW

By Herbert E. Locke, Esq

Continued from March Issue of the Journal, page 76

Incidental Legal Points of General Interest

Some misapprehension prevails regarding the doctor's legal status in a number of situations. Let me mention a few.

1. *Liability for unauthorized treatment given or procured.* The doctor has a patient in the hospital for T. & A. He procures another doctor to "assist" him, one believed to be more skilled in this particular surgery. He doesn't tell the patient, and secure permission; he assumes it's not necessary. Nor does the procured assistant obtain consent of the patient. He assumes it isn't necessary, or to the extent it might be, the first doctor has procured it. The patient's coagulation test was satisfactory, but she does have considerable hemorrhage and disturbance, postoperatively. Not due, however, to any fault of the surgeons. Their procedure was eminently proper throughout. But she makes claim for assault. Is there liability? Yes, inescapable.

The law jealously guards the person of the patient. It may not be invaded without the patient's consent. The first doctor is liable for procuring the surgery by an unauthorized person. And the second is likewise liable for performing the unauthorized surgery. The above case occurred in my experience, here in Maine.

And in assault, that is, a legally unauthorized procedure, as distinguished from negligence, authorized procedure negligently performed, the law permits punitive damages, damages which may well exceed the amount of the compensatory damages for the alleged disturbances suffered. Recovery has been had in other states for punitive damages in such instances.

Before surgery or any procedure of consequence, as for instance spinal anesthesia rather than general anesthesia, get consent not only for yourself but for whomever you may associate with you.

2. *Form and sufficiency of permit.* Adequate written consent should be procured, signed by the patient, or if the patient be a minor or person otherwise under disability, signed by the parent, guardian or responsible relative. And it should be sufficiently broad. Not all the forms in use in hospitals are. The permit should grant authority "to the attending doctor and those he may associate with him to perform such surgery and procedures as in their opinion are necessary or advisable." Check the form in use in your hospital. I have encountered permits within the past few years which were insufficient, and got the hospital to enlarge them.

3. *Emergency treatment.* Grave emergency supplies the lack of specific consent, and permits surgery or other treatment against the patient's consent, in extreme cases. A woodsman's foot and ankle were badly crushed. To avoid the likelihood of death, immediate amputation was advisable. But the fracture was not compound. To the patient, the leg "looked alright." So he refused authority to amputate. The surgeon, distressed by the situation, called me hurriedly. I advised and the surgeon procured the approval of the patient's priest. Such approval was of no binding legal effect, but it was of decisive practical effect.

When confronted with such emergency, procure consent of the patient if possible. If not, procure it from some source the patient will respect. If timely consent from such sources is not available, then secure concurrence of opinion from another surgeon. If none of the foregoing are procurable, then rely upon the legal rule that grants you "consent" in grave emergency.

4. *Liability for acts of hospital nurses or assistants.* The 1951 report of Mr. Regan to the A. M. A., previously mentioned, says:

"The attending physician is generally not liable for the negligence of an interne, a nurse, or other hospital employee. He is, however, responsible for the acts of the hospital personnel in so far as they are carried out under his immediate supervision and control. Thus, the operating surgeon and not the hospital is held liable for any negligence of operating room attendants during the performance of surgery."

Not so, in Maine, to the extent indicated by the above quotation.

—*Watson* vs. *Fahey,* 135 Me. 376.

The rule is simple, if one clear distinction is borne in mind. For an act of the nurse, directed by the doctor, and *per se wrongful,* the surgeon is liable. Because he directed it; it is in legal contemplation his act.

But for a procedure directed by the doctor and *inherently permissible,* but unskillfully or *incorrectly performed by the nurse* or other operating room personnel, the doctor is certainly not liable. And shouldn't be. Most such cases are in this second category; no liability.

In the Watson-Fahey case, it was argued by eminent counsel for the plaintiff that the surgeon is "in charge" and should be held responsible for the errors of those in the operating room and associated with his surgery. Not so, we argued. The surgeon is not an operating room supervisor. He should not attempt to be. He should be intent on his surgery. He is entitled to assume that others in the team will perform their tasks correctly, unless and until their failure to do so is thrust upon his attention. The Maine Court adopted our view.

Of course, for the error of the surgeon's own employee, his office nurse or assistant employed by him, he is liable. Distinguish the *propriety* of the procedure from the *negligent performance* of it *by one who is not your employee.* There is no liability in the latter situation.

5. *Illegal practice of medicine by office nurse or hospital technician?* In these days many procedures, both diagnostic and therapeutic, are performed by office secretaries, office assistants who are R. N.'s and hospital technicians. And often in the absence of the attending doctor. Where lies the line between properly authorized procedures of this nature, and illegal practice of medicine, permitted by the doctor? The Maine statutes do not prescribe concretely, or even generally, any limitations on the procedures permissible, by nurse or technician.

Statement of the rule is simple: acts involving professional discretion are to be performed solely by the doctor. But it is in the concrete application of this rule to every day practice that the vexing problems arise, and have resulted in numerous claims against the doctor for unauthorized and illegal treatment allegedly permitted by him. A. M. A. in correspondence with me confesses perplexing difficulty in application of the rule to modern practice. Meanwhile, we have had a number of claims in Maine, as in other states.

In the doctor's absence, after general office hours, and with no doctor available in the immediate vicinity, the doctor's nurse, an R. N., cleanses and sutures a relatively superficial wound in a boy's forehead, caused by broken glass. There was some delay in healing and some temporary disfigurement. But the procedure of the nurse was that which the M. D. would have followed, had he been present. A dentist to whom the boy was taken later, appraised of the nurse's act, expressed to the mother the opinion that the nurse's treatment was unauthorized by law, and illegal. Claim resulted. I resisted it successfully. Similar cases involving less of "professional discretion" are not uncommon.

Here in Maine I have attempted to solve the problem, said by A. M. A. to be a troublesome one, by enumerating a list of illustrative procedures, some clearly permissible, others near the line, and some which I felt could well be considered not permissible. Then we asked the Board of Registration of Medicine to submit these concrete instances to the Attorney General, for a ruling as to whether they did or did not constitute illegal practice of medicine. The Board, as a State Department charged with responsibility in this connection, may properly ask the Attorney General's opinion. The profession, as such, may not. Nor may I. The Opinion of the Attorney General was received this summer. It is decidedly liberal in its declaration of what the assistant may do.

This Opinion, though binding on the Board, does not legally foreclose a claimant, prosecuting a civil claim for money damages against a doctor for allegedly permitting illegal practice of medicine. But it is significant and helpful. Few attorneys would proceed with a claim based upon procedure by a nurse which the Attorney General had advised the Board to be permissible.

The concrete questions propounded and the answers of the Attorney General are on file with the Board, in the office of the Maine Medical Association, and in our office. A copy is made addenda to this paper.

6. *No recovery for alleged negligence unless legal damage results.* Unless there be legal cause and effect, there is no moral or legal right to recover.

A young surgeon with a patient having an injured ankle orders X-ray. Pending reading by the radiologist several days later, he looks at the X-ray and expresses to the patient the opinion that there is no fracture. But he prescribes splinting and rest, procedures which would be proper had he diagnosed fracture. The radiologist later interprets the X-ray as indicating a green stick fracture, a crack without appreciable displacement. The surgeon hastily recalls the patient to the hospital, attends him properly, and states to the patient that he "made an error," that he is at fault, declines to make the patient a charge, and opens the door for claim against him. The claim is made. The patient asserts pain, disturbance to function, and otherwise exaggerates his residual condition. Patient believes he has a claim, regardless of the principle of cause and effect. And because of the doctor's "admission" to the patient of error the patient's attorney is exasperated when I deny liability.

There is no liability. The surgeon expressed a tentative interpretation of the X-ray before the radiologist read it. And the patient got the treatment he would have received had the X-ray been interpreted correctly at the start. Hence no damage. Consequently no liability of anybody.

Another illustration. Doctor's office nurse, for whose negligence he is liable, negligently causes a disfiguring second degree burn to the chest of a female patient in connection with the doctor's treatment of an automobile injury previously suffered by that patient. Then the patient settles with, and is paid by, the automobile driver (or his insurer) for the injury she suffered because of his negligent driving. May the patient recover from the doctor for the burn? No. Why? Because a person may have but one recovery for an ultimate condition of injury. And it is conclusively presumed that in recovering from the automobile driver, plaintiff was paid for all her condition of injury, including the aggravation of it by the doctor or his employee. The fact that the plaintiff patient and her attorney "didn't intend to" include the damages caused by the aggravation in their settlement with the automobile driver and consequently didn't ask enough money is immaterial.

We got that established in Maine in 1930.

—*Andrews* vs. *Davis,* 128 Me. 464.

And confirmed in unequivocal language in 1932.

—*Wells* vs. *Gould and Howard,* 131 Me. 192.

In the Wells case, Judge (later Chief Justice) Sturgis states the rule:

> "A settlement with and a release of all rights to recover against the original tort-feasor by the injured person operates as a bar to another action for malpractice against the physician or surgeon who treated and aggravated the injury."

So don't conclude, and admit, that you are liable until you find out whether you are or not. That, in the last analysis, is a legal, not solely medical question.

7. *Duty to attend and prescribe.* There is a natural tendency on the part of professional men to assume that a lesser degree of care and attention is required towards a person who does not pay. Not so. Once the responsibility is assumed, the duty to attend, commensurate with the responsibility, exists in law, whether the patient pays nothing or pays liberally. And that duty continues until the relationship of doctor and patient is terminated. Probably the doctor renders more free service than any other professional man. But that confers no license to reduce the attention which the nature of the case demands. This should be borne in mind in treating clinic and other charitable cases.

Termination of the relationship of doctor and patient — may be made by either. But the doctor has assumed a definite responsibility. When, for what he thinks is good reason, he terminates the relationship, he should either 1) notify the patient in writing of which he keeps a copy, or 2) be certain that some other doctor has assumed the care. I emphasize this because there have been cases in recent years where abandonment by the doctor has been claimed.

Clinics. Misunderstandings have arisen where the attending physician has sent the patient to a free clinic for specialized diagnostic procedures and advice. The attending physician suspected a recurrence of rheumatic fever in a child. So he arranged for the patient to go to the pediatric clinic for diagnostic procedures and advice. Not hearing from the child or his parents, he assumed that the clinic had diagnosed and advised, and that the parents were following that advice. Over a month elapsed before he received from the clinic, via the State authorities, the clinic's report. Rheumatic fever did recur. The child became a cardiac cripple.

Do not conclude that your responsibility has terminated or has been interrupted, merely because you have sent the patient to a state clinic for diagnostic procedures you could not provide or the patient otherwise afford. Do not wait for the clinic's report. It may not be timely. Consider that you still have the responsibility, and act accordingly.

In a recent case, including the above facts, there was much more to be said from the doctor's viewpoint than above indicated. And I was finally able to persuade plaintiff's attorney that no action was justified and that the doctor was neither morally nor legally at fault. But the above over-simplified statement illustrates my point.

Prescriptions—often involve powerful drugs. Misunderstanding by the druggist of an oral prescription given may result in harm to the patient. There is always a risk of such misunderstanding. And the doctor is legally bound to foresee that risk. Consequently, I recommend, and with emphasis, that all prescriptions be written, and signed by the doctor. Even orders in the hospital. And, that when a prescription be given orally over the telephone in an emergency, it be followed by written prescription.

8. *Malpractice liability of doctors in public institutions.* By the law in Maine and in some other states, the public charitable institution, as distinguished from the private hospital or other institution operated for profit, is not liable to a patient for negligence. But that immunity extends only to the pocketbook of the charitable institution itself. It does not carry over and furnish an umbrella to the doctor or other person employed by the charitable or public institution. The individual is always liable for his negligence, regardless of who employs him. I emphasize this because I find repeatedly that a misconception exists; that doctors employed by charitable and public institutions in Maine often assume that the immunity to the charitable institution protects them. Not so. And in these claim conscious days, I recommend that all doctors employed by public institutions carry malpractice insurance. Such insurance is an item of the overhead of their work. It would be fair for the institutions by whom they are employed to pay for it.

9. *Release of statements of or concerning the patient.* Statements or admissions of a person to his lawyer or to his wife are by law "privileged." And may be revealed to his detriment only if and when he, the person who made them, releases the privilege, i.e., gives assent. And by statute in many, in fact most, states disclosures to a person's doctor in the confidence of the relationship of doctor and patient are made privileged. (Disclosures to a person's priest are also privileged or quasi-privileged.)

Not so in Maine. Maine has no such statute. The refusal of a doctor to disclose statements or admissions of his patient which may adversely affect that patient's interests is grounded solely in the Ethics of his profession. The history and reasons for this sound principle of ethics, coming down to us from the Oath of Hippocrates, are known to all doctors.

What, then, should be the course of the Maine doctor, when pressed for information? He should hold steadfast to the Ethics of his profession until either 1) the patient, or 2) duly constituted authority authorizes the release.

Concretely, he should require the written consent of the patient before release, to an insurance adjustor for instance. Or, if summoned to Court, he should respectfully, but firmly, insist that the Court direct him to release, before he does so.

Another point in this connection. The prosecuting attorney, even the Attorney General of the State, is not "the Court." He may not compel the doctor to breach his Code of Ethics, voluntarily. Although he, the prosecuting attorney, may procure the disclosure by resort to appropriate legal proceedings.

I repeat. No law in Maine forbids the disclosure. And the Law, by appropriate process, may compel it. But a sound principle of ethics, honored down through the Ages, and increasingly re-enforced by statutes in the states (although not in Maine yet) forbids the disclosure, until there be release by the patient or by legal process such as deposition.

Analogous in principle is a report to others, for instance insurance adjustors, concerning the patient's physical condition, as distinguished from his statements. I recommend application of the same rule you would apply to the patient's statements or admissions.

To be concluded in the May Issue

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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EDITORIAL SECTION

House of Delegates

The date of the Spring Meeting of the Council and the House of Delegates falls sixty days before the Annual Meeting. Therefore on April 19th, 1953, the interim meeting was held in Bangor. It may be reported that the attendance at the Council meetings is, as a rule, (100%) one hundred percent. It would be gratifying to report that attendance at the meeting of the House of Delegates approximated one hundred percent. At the time that this comment is being written it can be said that the attendance of the Delegates has been disappointing.

The Council members take their responsibilities seriously. They attend a number of meetings every year, give consideration to a fairly lengthy agenda, make decisions which keep our association operating between annual meetings. And at the April meeting they present the budget which is set up for the ensuing year. The Delegates, we believe, accept their election to office in good faith and make resolutions to attend all the meetings. But unforeseen events, unexpected emergencies seem to arise and furnish alibis for inability to show up at the meetings. May we call the Delegates attention to the fact that alternates are available and that, if given adequate notice, may be able to serve.

The budget proposed by the Council must have the approval of the House. Other recommendations of the Council likewise, need the Delegates approval. The County Delegates, therefore, establish the policies of our association. If an elected Delegate is not present and has not expressed his views pro or con he has forfeited his right to share in the deliberations of the House and in good conscience, his right to complain about the activities of the organization. Election to the House as a Delegate is a democratic procedure enjoyed by every County Society. Failure to participate in the process does not appear to be a just reason for dissatisfaction with "the way things are run."

It is hoped that our June meeting will see every Delegate in his seat eager to take his part in the celebration of our 100th annual meeting.

Medical Meetings

About this time of year we are reminded almost daily and rather forcibly that a medical education is a continuing process. The reminders come to us in a Spring Flood of notices of oncoming medical society meetings. Meetings for surgeons, internists, pediatrists, neurologists, allergists, general practitioners and specialists in other branches, pour on to our desk. The programs, we like to read them all, are fascinating. Our medical brethren, able and talented colleagues, offer to present their experiences and the results of their scientific labours for appraisal and consideration. They share their knowledge with their fellow members. And the members learn things that they never learned at school. The big national meetings present views from all sections of the country and challenge the listeners to strive for the highest goals. May we add here an

earnest suggestion that attendance at the biggest of all meetings, the annual meetings of the A. M. A., is a memorable experience.

Inasmuch as the national societies and the various colleges meet only once, or at the most twice a year, we must find our all year round source of education nearer home. This fact brings us to a look at our local sources. The Hospital Staff meeting is recognized as one of the most prolific sources. A hospital staff member who neglects the staff meetings is neglecting his medical education. In addition to staff meetings, we find our county society meetings and in larger communities the local medical club. And they are the organizations which offer all good men an opportunity to participate in continuing medical education. We attended recently a meeting of a local medical club which has been holding meetings for seventy-six years. We listened with great interest to an exposition of modern methods for establishing a diagnosis in heart disease and to techniques employed in cardiac surgery, especially in cases of mitral stenosis. We learned that five cases of pure mitral stenosis heart disease had been operated upon successfully within the borders of our State. We came away from the meeting reminded once again that a medical education is a continuing and exciting process. We urge our members to take an active part in their Staff Meetings and in the meetings of their local medical group.

Proposed Amendments to the By-Laws of the Maine Medical Association

The Committee on Committees respectfully recommends the following amendments to the By-Laws concerning the terms and duties of certain committees. These recommendations will be acted upon by the House of Delegates at the Annual Session in June.

PROPOSED AMENDMENTS

Amend CHAPTER VII, Section 1 of the BY-LAWS, by adding at the end of said section the following names of committees:

"Health Insurance Committee,
Committee on Credentials."

Amend CHAPTER VII, Section 3 of the BY-LAWS (Legislative Committee), by adding at the end of said section the following words:

"They shall be elected for terms so that the terms of two members shall expire each year except that in the third year the term of one member shall expire."

Amend CHAPTER VII, Section 5 of the BY-LAWS, by striking out all of said section and substituting therefor the following:

Section 5. The Committee on Medical Education and Hospitals shall consist of five (5) members. It shall be the duty of this Committee:

(1.) To keep itself constantly informed concerning the relations between physicians and hospitals.

(2.) To be advised on the problems of medical education with particular attention to opportunities for students in Maine so desiring to obtain a medical education.

(3.) To be advised of and to provide opportunities for post-graduate training for doctors in Maine.

They shall be elected for terms so that the terms of two members shall expire each year except that in the third year the term of one member shall expire.

Amend CHAPTER VII, Section 6 of the BY-LAWS, by adding at the end of said section the following words (Public Relations Committee):

"They shall be elected for terms so that the terms of two members shall expire each year except that in the third year the term of one member shall expire."

Amend CHAPTER VII, Section 7 of the BY-LAWS, by adding at the end of said section the following words (Rural Health Committee):

"They shall be elected for terms so that the terms of two members shall expire each year."

Further amend CHAPTER VII, by renumbering Section 10 thereof as Section 12 and inserting the two following sections to be numbered Section 10 and Section 11:

Section 10. The Health Insurance Committee shall consist of nine (9) members.

It shall be authorized on behalf of the Association, to consider the application of insurance carriers for approval of policy forms; to grant the use of the Association's endorsement on policy forms or promotional literature in connection with the plan; to investigate complaints of either insured persons or participating doctors; to re-

view payments made by the insurance carrier under a policy for procedures not listed in the Master Schedule of Surgical and Obstetrical Indemnities: to confer with any insurance carrier on questions of procedure or any other problems which may arise; and to study and formulate changes and additions in the plan for recommendation to the Association.

They shall be elected for terms so that the term of three (3) members shall expire each year.

Section 11. There shall be a Committee on Credentials to consist of five (5) members. It shall be the duty of this Committee to determine the eligibility of any delegate or member, to be present and vote or take part in any proceedings of the Association.

They shall be elected for terms so that the terms of two members shall expire each year except that in the third year the term of one member shall expire.

Progress Report of the Committee for the Centennial Celebration

The Maine Ophthalmological Society, as part of the Centennial Celebration, will hold an Eye Clinic at the Maine Eye and Ear Infirmary on Monday, June 22nd, from 9.30 to 11.30 A. M. At 12.30 P. M. there will be a luncheon at the Eastland Hotel and following this the presentation of a paper on Newer Concepts in Glaucoma, by Dr. Paul A. Chandler of Boston.

C. Lawrence Holt, M. D.,
Chairman, Centennial Committee.

HOSPITAL STAFF MEETINGS

Open to the Profession

CITY	HOSPITAL	DATE
Augusta	Augusta General Hospital	1st Wednesday
Bangor	Eastern Maine General	2nd Tuesday
Bath	Bath Memorial Hospital	1st Tuesday
Belfast	Waldo County	2nd Friday
Biddeford	Webber Hospital Notre Dame Hospital	2nd Thursday 2nd Monday
Boothbay Harbor	St. Andrew's Hospital	4th Tuesday
Caribou	Cary Memorial	1st Wednesday
Damariscotta	Miles Memorial	2nd Thursday
Farmington	Franklin County Memorial	2nd Monday
Greenville	Charles Dean Hospital	2nd Wednesday
Hartland	Scott Webb Memorial Hospital	1st Wednesday
Lewiston	Central Maine General St. Mary's General	2nd Thursday 2nd Monday
Portland	Maine Eye and Ear Infirmary Maine General Mercy	1st Tuesday 2nd Friday 4th Thursday
Presque Isle	Presque Isle General	1st and 3rd Tuesdays
Rockland	Knox County General	1st Monday
Rumford	Rumford Community	4th Wednesday
Sanford	Goodall Memorial	2nd Tuesday
Waterville	Sisters Thayer	2nd Tuesday Every Thursday

The above list was compiled from a questionnaire sent out by the Maine Hospital Association. Additions or corrections will be made on notification to the Secretary, Maine Hospital Association, Thayer Hospital, Waterville.

COUNTY SOCIETIES

Androscoggin
President, William Spear, M. D., Lisbon Falls
Secretary, Norman O. Gauvreau, M. D., Lewiston

Aroostook
President, Clement L. Donahue, M. D., Caribou
Secretary, Clyde I. Swett, M. D., Island Falls

Cumberland
President, Carl E. Dunham, M. D., Portland
Secretary, Ralf S. Martin, M. D., Portland

Franklin
President, Harry Brinkman, M. D., Farmington
Secretary, Paul E. Floyd, M. D., Farmington

Hancock
President, Herbert T. Wilbur, Jr., M. D., Southwest Harbor
Secretary, Arthur M. Joost, Jr., M. D., Bucksport

Kennebec
President, Kurt A. Sommerfeld, M. D., Gardiner
Secretary, Arch H. Morrell, M. D., Augusta

Knox
President, Oram R. Lawry, Jr., M. D., Rockland
Secretary, Barbara G. Luce, M. D., Rockland

Lincoln-Sagadahoc
President, Samuel L. Belknap, M. D., Damariscotta
Secretary, John P. Goodrich, M. D., Boothbay Harbor

Oxford
President, David S. Broughton, M. D., Rumford
Secretary, Dexter E. Elsemore, M. D., Dixfield

Penobscot
President, Harry Butler, M. D., Bangor
Secretary, Herbert C. Scribner, M. D., Bangor

Piscataquis
President, Francis W. Bradbury, M. D., Dover-Foxcroft
Secretary, George C. Howard, M. D., Guilford

Somerset
President, H. Carl Amrein, M. D., Madison
Secretary, Niles L. Perkins, Jr., M. D., Bingham

Waldo
President, George L. Temple, M. D., Belfast
Secretary, Raymond L. Torrey, M. D., Searsport

Washington
President, James C. Bates, M. D., Eastport
Secretary, Karl V. Larson, M. D., East Machias

York
President, Frank W. Barden, M. D., Biddeford
Secretary, C. W. Kinghorn, M. D., Kittery

COUNTY SOCIETY NOTES

Androscoggin

A regular meeting of the Androscoggin County Medical Society was held at the Central Maine General Hospital, Lewiston, on Thursday, February 19, 1953, at 8.30 P. M.

Group Insurance Plans were discussed and it was suggested that the program committee attempt to schedule a speaker on this subject.

Dr. Charles J. Williams of Livermore Falls, was elected to membership.

The following members were appointed as representatives from the County Society to the Lewiston Nursing Group; Dr. Alcid F. DuMais, Dr. Rudolph Haas and Dr. Russell A. Morrissette.

Mr. Jere R. Clifford, Attorney, of Lewiston, speaker of the evening, spoke on the subject of Wills and Testaments. His discussion included the disposition of property when there is no Will, legal requirements of a valid Will, types of Wills, breaking a Will and Federal and State income taxes as applied to Wills. A question and answer period followed his talk.

NORMAN O. GAUVREAU, M. D.,
Secretary.

Cumberland

A meeting of the Cumberland County Medical Society was held at the Lafayette Hotel, Portland, on Thursday, March 19, 1953.

Dr. Carl E. Dunham, President of the Society, appointed the following members to draw up resolutions on the death of Dr. S. Judd Beach: Dr. Richard J. Goduti, Chairman; Dr. William R. McAdams and Dr. Thomas A. Foster.

The Secretary read a letter from Louise H. Beach, in appreciation for the gift which the Society sent to the Judd Beach Memorial Fund of the Maine Medical Center.

Dr. Adrian H. Scolten read a paper on the fluoridation of the public water supply. There was no action taken on this matter.

Due to the fact that the meeting was called for a free discussion of Blue Cross and Blue Shield, three invited guests were present; Dr. William F. Mahaney, Chairman of the Health Insurance Committee of the Maine Medical Association, Mr. Black and Mr. Nelson of the Associated Hospital Service. The evening was spent in free discussion of various controversial issues, particularly in regard to Blue Shield. However, the only action taken by the Society was as follows: That the Health Insurance Committee of the Maine Medical Association be asked to request the Associated Hospital Service to include in the claim form an assignment of the fee to the non-participating physicians. Until these forms can be reprinted, a separate form should be attached to the old claim form to be used as an assignment of fees. This motion was made by Dr. E. Allan McLean, duly seconded and carried.

RALF MARTIN, M. D.,
Secretary.

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, on Wednesday, March 11, 1953. There were eleven members present.

Dr. Herbert T. Wilbur, Jr., President of the Society, presided.

Dr. Robert J. Hughes of Bangor, guest speaker of the evening, gave a very comprehensive and stimulating talk on Recent Advances in the Treatment of Peptic Ulcer. A discussion period followed.

ARTHUR M. JOOST, JR., M. D.,
Secretary.

Inhibition of Excess Parasympathetic Stimuli in Peptic Ulcer with Banthīne®

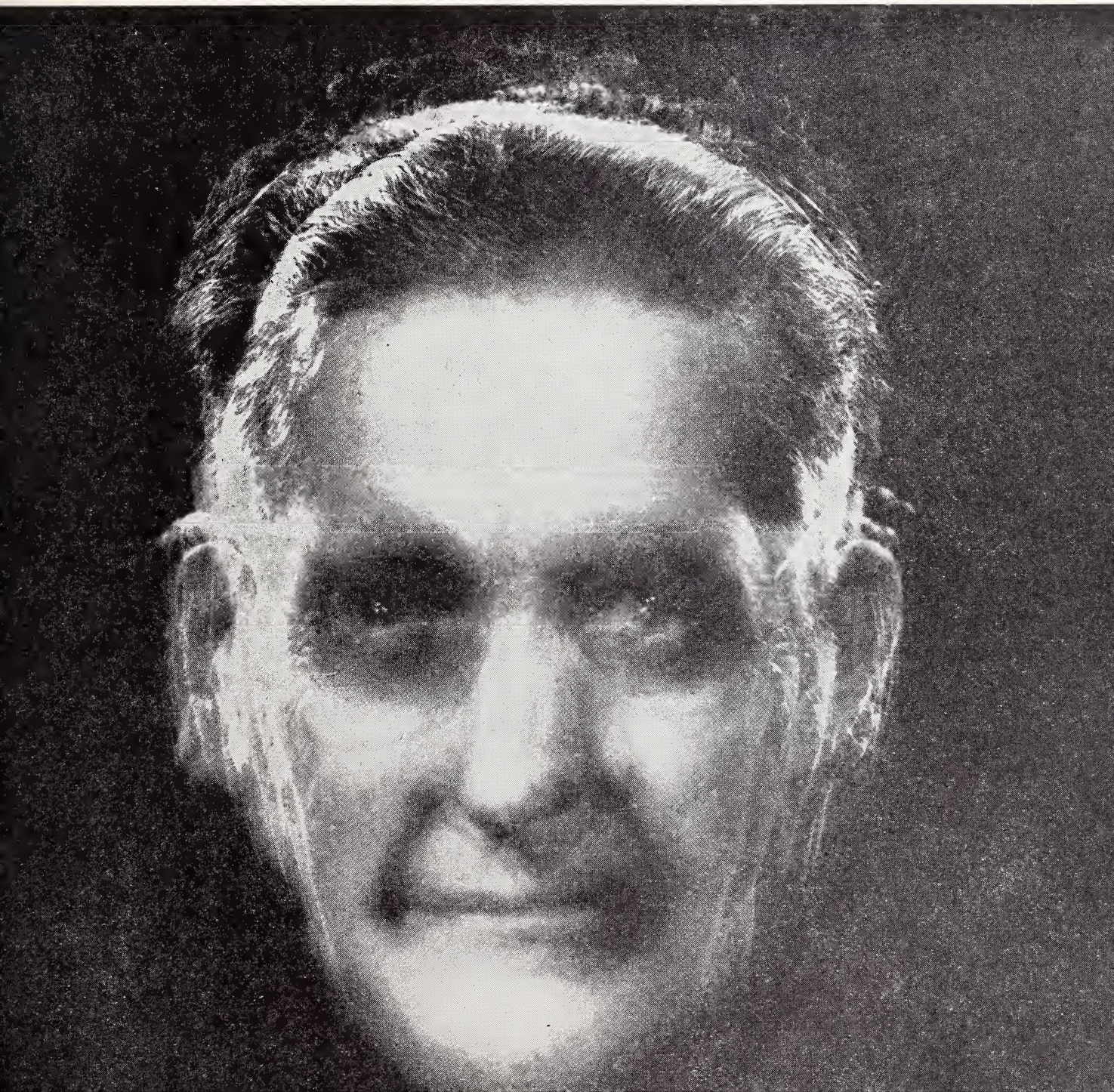
Medical literature now contains more than 200 references to the beneficial role of Banthine Bromide (brand of methantheline bromide) as evidenced by a marked healing response of peptic ulcers. Rapid symptomatic improvement, particularly with reference to pain relief, is followed by roentgenographic demonstration of crater filling.

The therapeutic action of the drug in decreasing hypermotility and hyperacidity, together with the remarkable early subjective benefit, is indeed a desired approach in ulcer management.

Treatment is individualized to the patient's needs. One or two tablets (50 to 100 mg.) is administered every six hours, around the clock, in conjunction with appropriate diet control and antacid medication as indicated.

Banthine is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Searle: Research in the Service of Medicine.

Ulcer Facies Composite



Kennebec

A regular meeting of the Kennebec County Medical Society was held at the Augusta House, Augusta, on Thursday, February 19, 1953. Dinner at 7.00 P. M. was served to twenty-nine members and two guests.

Dr. Kurt A. Sommerfeld, President of the Society, presided. He read a letter from Dr. C. Lawrence Holt, Chairman of the Maine Medical Association's Centennial Committee, relative to the fifteen-minute clinical presentations by general practitioners at the Scientific Clinical Sessions to be held during the Centennial Session in June. It was suggested that county society members interested in presenting cases at these sessions so notify the secretary.

Dr. Samuel Proger of Boston, was the guest speaker of the evening. His subject was The Cardiac Patient as a Surgical Risk.

A. H. Morrell, M. D.,
Secretary.

Penobscot

Dr. Frank Turchik, Chief of Ear, Nose, Throat, Maxillo-Facial Surgery, St. Vincent's Hospital, Bridgeport, Connecticut, was guest speaker at a joint meeting of the Penobscot County Medical Society and Penobscot Valley Dental Association, at the Bangor House, Bangor, Tuesday, March 17, 1953.

Dr. Turchik's subject was Management of Fascial-Trauma.

York

A meeting of the York County Medical Society was held at Alfred, Maine, on Wednesday, March 11, 1953.

A social hour was held at Dr. Carl E. Richard's residence from 12.30 to 1.30 P. M. A fine chicken dinner was served at the Congregational Vestry at 1.30 o'clock, which was followed by the meeting.

Dr. William W. Brown, Professor of Surgery at Tufts Medical School, gave a very interesting and instructive talk on Difficulty of Diagnosis of Abdominal Lesions.

Charles W. Kinghorn, M. D.,
Secretary.

New Member

Androscoggin

Charles J. Williams, M. D., 22 Main Street, Livermore Falls, Maine.

COMING MEETINGS

Maine Medical Association Centennial Session, Eastland Hotel, Portland, Maine, June 21-24, 1953. Chairman Centennial Committee, Dr. C. Lawrence Holt, Portland. See "Progress Report of the Committee for the Centennial Celebration," which is published elsewhere in this issue of the Journal.

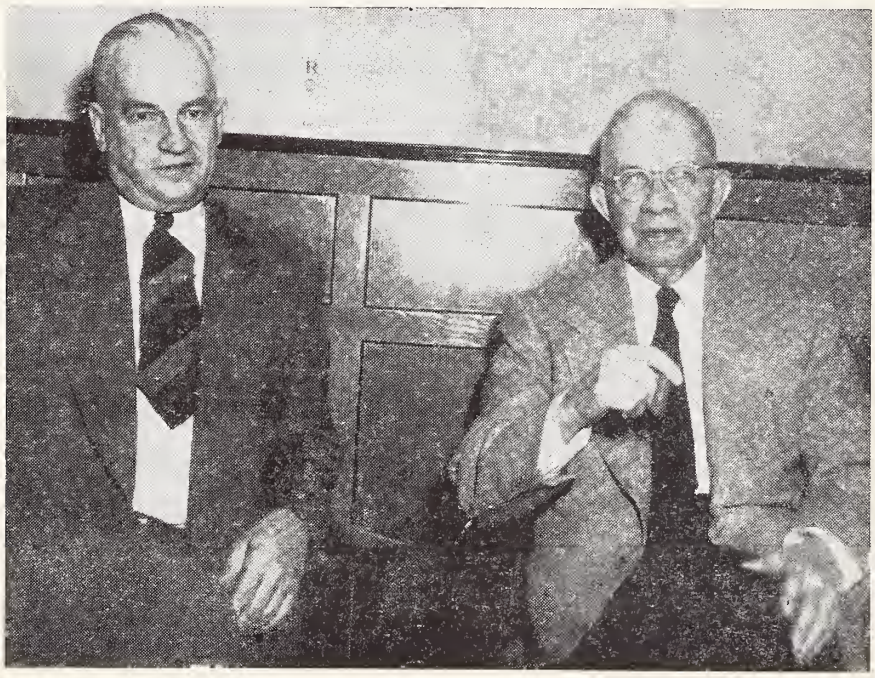
American Medical Association, 1953 Annual Session, New York City, June 1-5. Secretary, Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Ill.

Connecticut State Medical Society, Hamden High School, Hamden, Connecticut, April 27-29, 1953. Secretary, Dr. Creighton Barker, 160 St. Ronan Street, New Haven, Connecticut.

Massachusetts Medical Society, Boston, May 19-21, 1953. Secretary, Dr. Dwight O'Hara, 22 The Fenway, Boston 15, Massachusetts.

Rhode Island Medical Society, Rhode Island Medical Society Library, May 6 and 7, 1953. Secretary, Dr. Thomas Perry, Jr., 106 Francis Street, Providence 3, Rhode Island.

Maine's Guest of Honor at World Medical Event



Dr. George L. Pratt (right) is shown here in his office at Farmington, Me., with Sheriff Earl R. Hawkins with whom he, as medical examiner, so often consults on cases of murder, accidental death and suicide. By designation of Governor Burton M. Cross, he will represent the state at the First Western Hemisphere Conference of the World Medical Association in Richmond, Va., April 23-25, 1953. Along with physicians from the other states who are 75 years old this year, Dr. Pratt will be honored by leaders of the medical societies of the United States and Latin America.

Medicine's greatest advances will be commemorated at the conference. Dr. Pratt names as the seven most important advances he has witnessed: aseptic surgery techniques, discovery and development of X-rays, the "well-named miracle drugs," better management of burns and wounds, more precision in diagnosis, improved obstetrical procedures, and new chest, plastic, neurological and cardiac surgical procedures. Conference costs are covered by a grant from A. H. Robins Co., Inc., pharmaceutical manufacturers on the occasion of its diamond anniversary.

NECROLOGY

Photo by Roger Paul Jordan

John Howard Allen, M. D.

1866 - 1953

Dr. John Howard Allen died on January 13, 1953, at his home in the Pond Cove district of Cape Elizabeth, Maine. Dr. Allen was one of the older group of practitioners in Cumberland County. He was born in Brownfield, Maine, on May 10, 1866; one of the three children born to John H. and Martha A. (Goodspeed) Allen. The family moved to Farmington shortly after his birth and lived there until his father's death. Thereafter Mrs. Allen and the three children moved to Portland. Here Dr. Allen attended grade schools and graduated from Portland High School with the class of 1885.

Obliged to earn a living and save money for advanced education, he worked for a few years in different banking institutions then active in Portland. He left his position in Swan & Barrets about 1898 to enroll as a medical student in the University of Pennsylvania. And, in the year 1902 he was graduated from the medical school of the University with the degree of M. D. In order to prepare himself for one of the special fields of general medicine, he accepted an internship and residency at the Massachusetts Eye and Ear Infirmary where he remained two and one-half years. Upon the conclusion of his services at the Massachusetts Eye and Ear Infirmary, he moved to Portland and opened an office on upper Congress Street. He limited his practice to diseases of the Ear, Nose and Throat and became widely recognized as a well qualified and skillful practitioner of his specialty. Throughout his years of busy practice he kept abreast of the advances in medicine with attendance at many post-graduate courses in Boston, Philadelphia and Germany. He studied on occasion with Harris P. Mosher and Howard Kyle of Philadelphia and Hallé in Germany. He served for years on the Staff of the Maine General Hospital and was Chief Surgeon on the Ear, Nose and Throat Service. In 1931 he was made a member of the Consulting Staff of the Maine General and at a later date a member of the Honorary Staff. The latter part of his life he occupied offices in the old Thomas B. Reed house on Deering Street. During his practice in the Deering Street office Dr. Henry Peter Johnson became an associate. Dr. Allen retired from the active practice some years ago, but he never lost his interest in the profession; in the hospital and his many friends.

In 1905, Dr. Allen married Martha Stevens, daughter of Frank G. and Albertina B. Stevens of the Stevens Plains Section of Woodfords. A more devoted couple would be hard to find. Mrs. Allen survives and lives in their attractive home on the shores of Cape Elizabeth with a wide open view of the beautiful Atlantic Ocean.

It would be remiss to record the achievements of Dr. Allen without adding a word about his abiding interest in culture, particularly in the art of painting. In his early years in Portland he became a member of the "Brush-uns," a local group of artists and spent many happy hours in excursions to the environs looking for an appropriate scene to put on canvas. Later he studied with Mr. Woodbury of Ogunquit and New York. And he enjoyed a membership in the Salamugundi Club of New York. In recent years he showed his paintings at the Physicians Art Salon held at the meetings of the American Medical Association. And in this salon where the most talented physician artists of the country exhibited, he won more than one first prize. One of his prize paintings now hangs on the wall of the Staff room at the Maine General Hospital. And many of his friends in Portland treasure an oil or water colour which the good doctor gave them.

Dr. Allen was a good citizen; a fine, sympathetic and skillful practitioner, a warm and loyal friend. The profession has lost a well trained, honorable colleague and the community an upright, cultured gentleman.

NEWS AND NOTES

Coming Examinations

State of Maine Board of Registration of Medicine

The next meeting and examinations of the State of Maine Board of Registration of Medicine will be held at the State House, Augusta, Maine, on July 14 and 15, 1953.

ADAM P. LEIGHTON, M. D., *Secretary,*
192 State Street, Portland, Maine.

Veterans Administration

With thousands of Maine veterans of World War II due to lose out on their G. I. insurance rights to the tune of $142,000,000 if they don't act soon, Eben C. Bagley, Officer-in-Charge of the Veterans Administration Office, Portland, has been asked to answer questions commonly asked by veterans desiring valuable G. I. insurance protection. Mr. Bagley's answers and further details can be obtained from his office at 171 Middle St., Portland.

Where There's Blood, There's Life!

You can be sure . . . where there's life, there's blood! While you've got your gallon and a half of blood circulating through your body, it doesn't always seem too important to share just a small part of it to help save someone else's life. As a matter of fact, your own life could well depend on having a couple pints of blood tomorrow, next week or perhaps next year. If you do need a pint of life, you'll want it quick and ready at hand . . . without fail or waiting.

Most people want it that way too . . . strongly enough to donate their blood on a regular schedule, several times a year. These are the people who are protecting your life. They expect the same protection from you . . . from the blood that YOU donate. Your blood also makes possible the production of derivatives such as plasma, serum albumin and gamma globulin. IT ALL MEANS LIFE, NOT ONLY TO YOU AND YOUR FAMILY, BUT TO THOUSANDS OF PEOPLE ALL OVER THE COUNTRY.

The future of American freedom and well-being depends on everyone sharing in the vital job of providing adequate supplies of blood. We must save lives of our wounded fighting men, provide for everyday civilian needs, and build a reserve for civil defense use in case of attack. Over 5,000,000 pints are needed this year alone. THIS IS A JOB FOR REAL RED-BLOODED AMERICANS.

To be sure, where there's blood, there's life . . . perhaps yours! Make sure your blood is there wherever it is needed. *Call your local Red Cross, Community or Armed Forces Blood Center today to schedule a donation.*

Tumor Clinics

Sisters Hospital, Waterville, Maine, 1st and 3rd Thursdays, 10.00-11.00 A. M., Armand L. Guite, M. D., Director.

Augusta General Hospital, Augusta, Maine, 1st Monday, 9.00 A. M., Leon D. Herring, M. D., Director.

Bath Memorial Hospital, Bath, Maine, 2nd Tuesday, 3.00-5.00 P. M., Francis A. Winchenbach, M. D., Director.

Maine General Hospital, Portland, Maine, Thursdays, 10.00 A. M., Joseph E. Porter, M. D., Director.

Presque Isle General Hospital, Presque Isle, Maine, Thursdays, 10.00-12.00 A. M., Storer W. Boone, M. D., Director.

Madigan Memorial Hospital, Houlton, Maine, 2nd and 4th Wednesdays, 10.00-12.00 A. M., Joseph A. Donovan, M. D., Director.

Central Maine General Hospital, Lewiston, Maine, Tuesdays, 10.00 A. M., Waldo A. Clapp, M. D., Director.

St. Mary's General Hospital, Lewiston, Maine, Wednesdays, 3.30 P. M., Romeo A. Beliveau, M. D., Director.

Eastern Maine General Hospital, Bangor, Maine, Thursdays, 10.30 A. M., Magnus F. Ridlon, M. D., Director.

Thayer Hospital, Waterville, Maine, Tuesdays, 10.00-11.00 A. M., Irving I. Goodof, M. D., Director.

BOOK REVIEW

SIDE EFFECTS OF DRUGS

Dr. L. Meyler

Elsevier Publishing Company, New York, 1952

A very up-to-date encyclopedia of the side effects of all drugs and medical therapeutic agents. The material is well presented in a convenient, concise form in which the drug is discussed in relation to its reaction on the particular body system.

There has been a tremendous amount of painstaking research of world literature in its preparation. It may report even one or two case references of any undesirable side effects of little used drugs as well. Although not in detail, reference is made to specific antidotes or therapy to counteract where possible the drug's side effect.

To my knowledge, it is the first attempt to condense the ill effects of both old and new drugs besides their allergic manifestations without being a textbook of toxicology.

The book is a handy reference, well translated into English from the Dutch with some amusing British diction and spelling. For example, "The girl had only had a salicylic draught for pains in her joints."

The preface of the book is worthy of note in that it emphasizes the often-forgotten practices — "Diagnosis first, drug treatment only if definitely indicated," and "Does the potential risk of the drug exceed the risk of disease process itself?"

There are excellent sections on the antibiotics, hormones, vitamins, blood derivatives, and plasma substitutes. To indicate its thoroughness, in its unclassified therapeutic agents is included the proprietary drug Serutan (R).

I feel that this book is of great timely value to all practicing physicians in all fields, and that it fills the widening gap where high pressure medical advertising turns our attention from the obvious potential dangers which beset the giving of any drug. This 260 page volume written by Dr. Meyler, consulting physician at Groninger, Netherlands, should be as important to the active practitioner as any preclinical subject is to the student of medicine. The aid from this book as a reference is basic to the good practice of good medicine.

WILLIAM C. BURRAGE, M. D.

Treatment of Common External Diseases of the Eye
Continued from page 94

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Advertisement

From where I sit
by Joe Marsh

Wrong "Train" of Thought

Most of us knew the streamliner stopped about four miles from town Thursday—but we didn't know *why*...

Seems the train was hurrying right along, then came the screeching of brakes—some fellow had pulled the Emergency Stop cord.

When the conductor asked him why he did it, he quickly replied, "The train was going much too fast—I wanted to get you to slow down."

From where I sit, that streamliner has been going at that speed for the past seven years with a perfect safety record and the passengers have always been pleased.

Now—along comes a fellow who wants the train to go at his speed. Some people are like that. Some would tell a neighbor how to practice his profession . . . others would begrudge a person's right to a glass of beer—even though they wouldn't dream of flashing a "Stop" sign on preferences for, say, milk, coffee or tea. Respecting the rights of others is the only way we can all keep "on the right track."

Joe Marsh

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MEDICINE AND THE LAW

By Herbert E. Locke, Esq.

Continued from the April Issue, page 102

General Observations

1. *"The Doctor on the Witness Stand."* The following points occur to me:

Be loyal to, but not an advocate for, your patient. When you undertake the care of a patient, you assume some moral responsibility to appear in Court, if requested by him, to testify on his behalf, as for instance in a personal injury action brought by him. But do not become an advocate for him. That is his attorney's function. Do not minimize, or exaggerate. Nothing breeds more lack of confidence in the medical profession than the spectacle of two doctors, one on each side of a personal injury case, the one seeking to exaggerate and the other seeking to minimize the plaintiff patient's injury and residual condition. As one highly respected Judge, later Chief Justice of the Supreme Court of Maine, remarked to a jury when they had been entertained by two vastly different conclusions from the two doctors called by plaintiff and defendant, "You are not required to accept the views of expert witnesses; in this case I don't believe either of them."

Use common everyday colloquial English. Not technical terms unless they are really necessary to convey your meaning. Ability to translate into simple English spells more help to, and respect from, both Judge and Jury.

The Expert Witness. You may be asked to examine a person involved in litigation for the purpose of testifying as an "expert witness" in your particular field or specialty. Or to study the history and give an expert opinion, even though you do not examine the person. Are you bound to do so? It may be distasteful in the particular case. Do you violate a legal or moral duty in declining?

No. The Maine Supreme Court has never passed on this question. In the only case I ever had in which the matter was seriously presented, some twenty years ago, the United States District Court (Peters, J.) said no.

On the other hand, unless you have what seems to you a sufficient reason, it is graceful to give Court and Jury the benefit of your expert knowledge.

2. *"The Doctor and the Criminal Law."* I am asked to make a few observations on this general subject.

First, the disclosure of statements or admissions of a patient, for instance the accused in a criminal case. The practical application of the principle of Ethics involved I have previously commented on.

Contraception, Abortion, and Sterilization. In English common law, the chief source of our jurisprudence, and by the law of most earlier civilizations, all three were forbidden. The basic reason: such procedure tended to reduce the manpower of the reigning monarch, and his ability to defend the realm. Consequently, they were outlawed, declared immoral and illegal by both Church and State.

In more recent years, and for the alleged good of society, the first and third procedures, contraception and sterilization, have achieved respectability in the public mind. Abortion remains verboten.

Abortion—or attempt to abort "whether such child is quick or not" is a serious felony, as we all know, punishable by fine and imprisonment up to five years. And, further, not so generally known, and paradoxically, it permits the female who tearfully besought the doctor to perform it to recover money damages from him.

In some cases, consent to the invasion of the person is a defense to a civil claim for money damages for assault. The boxer is not guilty of assault, generally. The other consented.

But not so in case of abortion, in Maine.

> "Consent by one person to allow another to perform an unlawful act upon such person does not constitute a defense to an action to recover the actual damages which such person thereby received."
>
> (In crimes like abortion.)
>
> —*Lembo* vs. *Donnell*, 117 Me. 143.

And the doctor's malpractice insurance does not cover, does not provide a defense or indemnify for damages recovered in such action. On grounds of public policy, the insurer may not defend or indemnify.

Therapeutic abortion is of course permissible, legal. But as a precautionary measure, the doctor should call another doctor into consultation, real consultation, and preserve in writing a memorandum of the consultation, conclusions, and reasons therefor, signed by both doctors.

And in those emergency cases where the doctor, in simple humanity, must "clean up" the after effects of an abortion or attempted abortion by a third person, he would do well to take a written statement from the patient, or if she is incapacitated, from someone close to her and in her behalf, that he was not associated with the abortion or attempted abortion. Because the burden of proving that his treatment was therapeutic rests upon him.

Contraception. For therapeutic purposes, prevention of disease, and the like, this practice is of course perfectly legal. And the prescription and use of devices for that purpose are common today. Nevertheless, I would advise some caution. The Maine statutes do not yet grant unqualified blessing. They provide, Revised Statues, Chapter 121 (1944), Section 11:

"Whoever publishes, sells, or distributes by hand or otherwise any circular, pamphlet, or book containing recipes or prescriptions for the cure of chronic female complaints or private diseases, or recipes or prescriptions for drops, pills, tinctures, or other compound designed to prevent conception, or tending to produce miscarriage or abortion shall be punished by a fine of not less than $50, nor more than $100, or by imprisonment for not more than 3 months."

A letter or a prescription from a doctor is not, probably, a "circular, pamphlet, or book" within the purview of the above mentioned statute. But I would still recommend that a doctor do not reduce a prescription or advice for contraceptive device to writing.

Sterilization. First, if therapeutic, it is justifiable, and unquestionably legal. But, again, I would advise the independent advice and written approval of another surgeon. And also for practical reasons the consent in writing of the spouse, if procurable.

Second, the feeble-minded. A statutory proceeding permits involuntary sterilization in certain instances. And care should be taken to see that the statutory proceedings are carefully followed. Approved forms are provided for that purpose. See Maine Revised Statutes, Chapter 23, Sections 158-165, permitting sterilization of the feeble-minded and mentally ill under the circumstances and subject to the procedure therein provided.

The statute requires:

1. Determination by the attending physician that sterilization operation is indicated for the prevention of the reproduction of further feeble-mindedness or for the therapeutic treatment of mental disease.

2. Recommendation (preferably in writing) to the nearest relative, guardian, and to the affected individual of the advisability and necessity of sterilization.

3. The calling together by the physician of a council of two registered medical practitioners, one a physician and one a surgeon, both of not less than five years practice and not related to the patient.

4. Examination of the person to be operated upon by the council consisting of the physician in charge of the case and the two consultants above mentioned.

5. Determination by the consultants of whether the person to be operated upon is mentally capable of giving his consent, with that determination stated in writing, with reasons therefor, and the written statement forwarded to Pownal State School where it shall be kept on file. (Keep a copy.)

6. Written consent of the person to be operated upon, if it be determined that he is capable of giving such; and if it is determined that he is not, then the written consent of the nearest relative or guardian must be secured.

7. Determination (in writing) that in the judgment of the consultants the operation will prevent the further propagation of mental deficiency, or that the physical or mental condition of such person will be substantially benefited by the operation.

8. Selection by the consultants (in writing) of a competent surgeon to perform the operation, and the

surgeon so selected may be the consulting surgeon on the above mentioned council.

As will be seen, this statute has many requirements. The Legislature intentionally made it so. As I have previously remarked, the Law jealously guards the person i.e., the body of the citizen, against any invasion. And from the viewpoint of the Law, regardless of how it may seem to the doctor, sterilization surgery is a most serious invasion of the person, from both the public policy and the personal viewpoint.

Consequently, the approved form previously mentioned has been prepared with care. I collaborated with the Attorney General in the preparation of forms following the enactment of the law in 1933.

If a physician in private practice is to perform sterilization surgery in any case where it could be contended that the patient was feeble-minded or incapable of giving an understanding consent, the statutory procedure should be followed with great care. Particularly with respect to the reduction to writing pursuant to the statute. Else an action for assault might be brought—and maintained.

To be sure, Section 165 above mentioned provides that a "person legally participating in the execution of the provisions" of the statute shall not "be liable either civilly or criminally on account of said participation," except for negligent performance of it. But that does not excuse strict compliance with the statutory requirements. The statute is in derogation of common law: it legalizes what would otherwise be mayhem, a serious assault. All statutes in derogation of common law are construed strictly. No doctor *"legally"* participates in non-institutional sterilization procedures of the mentally ill or deficient, unless he follows closely the above outlined statutory procedure.

The matter of sterilization of those confined to mental institutions, the procedure in connection therewith, including order for sterilization and right of appeal therefrom and the like, need not be discussed. You do not have to do with it in your private practice.

Voluntary non-therapeutic sterilization. In some states, it is expressly outlawed by penal statute, but not in Maine. Without a statute in Maine declaring it a crime, does the old abhorrence of such practice, previously mentioned, carry over? Is it a common law crime in Maine?

Probably not, in my opinion, and also in the opinion of my associate, James L. Reid, a former prosecuting officer of Kennebec County. Several years ago he and I made an exhaustive study of this point. And such is our conclusion.

To this extent I revise the view expressed by me some twelve years ago in the address "Safeguarding the Surgeon," mentioned in the early part of this talk. Nevertheless, I recommend 1) that if therapeutic basis exists at all, written memorandum to that effect joined in by another surgeon be made and preserved, and 2) that the written consent of the spouse be procured and preserved.

Commitment to institution for the insane. In the thirty odd years I have had to do with the legal problems of M. D.'s in Maine, this has not been a serious problem. But within a few months I had a case in which an M. D. in a nearby New England state signed commitment papers without examination and in fact without even seeing the patient, doing so at the request of another physician. And it is suggested by Dr. Sleeper that I mention this matter. I advise:

1. Before signing commitment papers, make a real examination: comply with Section 107 of Chapter 23, Maine Revised Statutes, which requires that "such evidence and certificate (of the doctor signing) be based upon due inquiry and personal examination of the person to whom insanity is imputed."

2. Preserve an adequate written record of the history, your observations, and your conclusions as the result of examination; don't rely upon your unaided recollection.

Conclusion

To bring to an end this dissertation, I realize that some of you may consider this an irritating compilation "Dos" and "Don'ts", based on the assumption by me that all doctors are careless, and all patients are ungrateful and suit-minded. No. The majority of our doctors are careful, and observe most of the precautions for avoidance of malpractice claims which I outline above. A majority of their patients are not litigious paranoiacs and are grateful to their attending doctors. But not all doctors are such. And not all patients are such. It is with that small minority of patients, and doctors, too, that I am concerned.

My job is to reduce so far as possible the incidence of malpractice claims and other annoyances to practicing doctors in Maine. If by this paper I avoid one malpractice claim or one disturbing incident in the practice of a Maine doctor, I reckon my time well spent.

FOOTNOTES

1. One of the most readable and useful is "Courts and Doctors" by Lloyd Stryker, Esq., for many years general counsel for the Medical Society of the State of New York. (Macmillan, 1932.) Old, but good.
   More legalistic but entirely practical in its approach is "Medical Malpractice" by Louis J. Regan, M. D., L. L. B., of Los Angeles, California. (C. V. Moseby Co., St. Louis, 1943.) Chapter XV, Malpractice Prophylaxis is excellent.
2. New England Journal of Medicine, Volume 204, No. 16, pp. 810-825, April 16, 1931.
3. Journal of Maine Medical Association, Volume 31, No. 11, November, 1940, pp. 291-297.
4. Report of the Committee on Medico-Legal Problems to American Medical Association, Journal of the American Medical Association, Sept. 1, 1951, Volume 147, p. 54.

ADDENDA

STATE OF MAINE
DEPARTMENT OF THE ATTORNEY GENERAL
Augusta

July 28, 1952.

ADAM P. LEIGHTON, M. D., *Secretary*
Board of Registration of Medicine
192 State Street
Portland 3, Maine

My dear Dr. Leighton:

Replying to your letter of July 11th, with regard to possible illegal practice of medicine, M. D.'s permitting office assistants, nurses, technicians, and others to perform various procedures:—

In your letter was included a list of procedures, 1 to 9-D. These have been read over in this office and compared with the applicable statutes.

We call your attention to Section 8 of Chapter 61 of the Revised Statutes, in which are included the exemptions from the provisions of the preceding Section 7.

We enclose your list with our answers.

It is the opinion of this office that the procedures in your list are legal, but refer you to our specific answers for qualifications.

Very truly yours,
/s/ ALEXANDER A. LAFLEUR,
ALEXANDER A. LAFLEUR,
Attorney General.

LIST OF PROCEDURES

1. A) X, a mill worker, is brought into Dr. A's office with a severely cut hand. Something has to be done right away, an emergency situation. Dr. A is operating at the hospital. No other doctor is in the vicinity. The nurse cleanses, medicates and sutures the wound.

Answer. Rendering of assistance in an emergency situation is authorized by Section 8 of Chapter 61, R. S. 1944.

B) Same example as above, however, Dr. B's office is right next door to Dr. A's. Doctor B is in his office. Doctor A and Doctor B are not particularly friendly. Dr. A's nurse cleanses, medicates and sutures wound.

Answer. A closer case. Suturing without surgery may be performed by one who under her doctor's instructions has become familiar with the process and well knows that the same would be required of her, were the doctor present.

2. A) X, a mill worker, comes into Dr. A's office with a badly cut hand. While Dr. A is finishing with patient Y, his nurse cleans the cut.

Answer. We think a registered nurse is qualified and permitted by law to do that.

B) After Dr. A sutures X's wound, he tells X to come back in two days. X returns and while Dr. A is busy with patient Y, his nurse takes off the bandage on X's hand, and cleanses the wound.

Answer. We think a doctor expects his nurse to do in his absence as far as she is qualified and that same is legal in this case.

C) X keeps coming in the doctor's office. In the doctor's absence Nurse N takes off the dirty bandage, medicates, picks off sloughing flesh, puts on clean bandage.

Answer. This smatters of neglect by doctor, but many extenuating circumstances may be present. Procedure seems to be permitted by the doctor. If not properly done, it seems that he would be responsible, but it would be hard to convict him of something he did not do.

3. X, a mill worker, cuts his hand at the mill. Nurse N received the call from the mill, states that the doctor is at the hospital but that she will contact him, and that he should be at the mill in one-half an hour. She also tells the person on the phone to cleanse the wound.

Answer. This appears to be an emergency, authorized by Section 8, Chapter 61, R. S.

4. Doctor A has been prescribing cold packs for X's knee. X had been calling regularly at Dr. A's office and Nurse N was thoroughly familiar with the case. X had been putting on the cold packs at home. X improves and stops the treatment. Dr. A goes fishing. X has trouble and calls the office. Nurse N tells him to again put on cold packs.

Answer. We do not think this a prescription but a reminder of what the doctor prescribed, therefore legal.

5. A) Dr. A has had an office girl for ten years. She never received her nursing degree. The nurse gives Mrs. X her cold shots or inoculations in Dr. A's presence and at his request each week.

Answer. The office girl, serving as a practical nurse under Chapter 64, Section 7, may do this at doctor's request.

B) During Dr. A's fishing trip Mrs. X comes in for another shot and the nurse gives it to her.

Answer. She may do that, it having been prescribed by the doctor.

6. A) Nurse N at Dr. A's request and in his presence has been massaging X's weak left arm.

Answer. Under Section 6, Chapter 61, massage may be performed professionally or otherwise without a license.

B) X would come in for an appointment and after a casual word from Dr. A, Nurse N would take over and massage. *(Same answer as for A.)*

C) In Dr. A's absence, Nurse N would massage X's arm. *(Same Answer.)*

7. Dr. A gives X twelve pills from a bottle in his office. X gets relief. Three weeks later X is distressed again and goes to A's office. Dr. A is out and X asks Nurse N for some more of those pills. Nurse N gives more pills to X.

Answer. It is customary for such refills to be got at a drugstore, but it is not unusual for a nurse to give them, and we think it lawful.

8. A) Dr. A has been giving X diathermy treatment for his shoulder. Nurse N runs the machine, knows it, but the doctor watches and supervises. X comes in for treatment and just as the machine gets started, Dr. A is called to the hospital. Nurse N finishes the treatment.

Answer. We think this proper and legal.

B) X comes in for diathermy treatment. In Dr. A's absence, Nurse N operates the machine.

Answer. We think this customary and proper for doctors to delegate to nurses.

9. A) Mrs. X is in labor. Dr. A is on his way to the hospital. Nurse N at hospital tries to retard the delivery until the doctor arrives.

Answer. Justified by emergency, though no opinion is expressed about its being the best thing to do.

B) Nurse X has been working in the X-ray lab. for three years. She is highly qualified. In Dr. A's absence she takes X-rays, manipulating the machine.

C) Nurse N in Dr. A's absence gives barium internally and takes an X-ray.

D) Dr. A calls Ward O on telephone and tells the nurse on duty to give X a certain amount of opiate by injection.

Answer to B, C and D. We think nurses are properly trained and some are made specialists in doing X-rays, and so are more competent than doctors who are not specialists in that field. They are therefore properly and legally in their sphere in so doing.

Note by H. E. Locke:

Section 8, referred to in the Attorney General's letter and in his answers, includes the provision that "the seven proceeding sections shall not apply . . . to prohibit the rendering of gratuitous services or the rendering of assistance in *emergency cases* i.e., he bases his replies in part on the emergency involved.

SURGICAL TREATMENT OF CANCER OF THE CERVIX

T. G. Harvey, M. D., Fort Fairfield, Maine

Of women who die of cancer, one-third have cancer of the uterus; 85% of these have cancer of the uterine cervix.

Gynecologists are by no means agreed on the best method of treating carcinoma of the cervix. Generally speaking, in the United States and Canada, radical surgery has largely been abandoned in favor of irradiation, although in recent years, because of the advent of antibiotics and improved supportive therapy, many clinics, such as that of Meigs at the Massachusetts General Hospital, have performed radical surgery in selected cases.

During my own medical training at the New York Hospital and the Memorial Hospital for Treatment of Cancer and Allied Diseases in the early 30's, the accepted therapy for uterine malignancy was surgery for early carcinoma of the fundus, or corpus, and radium and roentgen rays for all other malignant lesions. At that time James Ewing, one of the world's great cancer specialists, was definitely pessimistic about the use of surgery in the treatment of cancer of almost any type in almost any organ or tissue. It was the experience of such giants in the field of cancer study and therapy that helped to give to the medical profession the wholesome respect for the disease that it now holds. So far as Dr. Ewing is concerned, I believe that his general dicta may still be said to apply—surgery in selected cases of corpus cancer and radiation for the rest.

To determine the best treatment for any disease it is necessary to look over critically the results obtained by the various possible methods, and in determining therapy for cervical cancer in this modern day the skill and training of many men, and much patient, diligent work through many years must combine to give the ultimate answer.

The pathologist's service is of value, of course, in ascertaining the diagnosis of early cancer by the examination of tissue from smear, biopsy and curettage. This should always be done in order to confirm a positive or suspicious report of malignancy in a vaginal or cervical smear stained by the Papanicolaou method. The pathologist also renders a report on tissue removed by surgery, especially lymphoid tissue from outlying portions of the specimen, in order to aid in determining whether post-operative radiation is advisable and incidentally to aid in the formation of an intelligent prognosis. Pathological examination of vaginal and cervical smears also aids in determining the progress, relative success, or failure of therapy by radium and roentgen rays.

The histology of cancer was found by Martzloff at Johns Hopkins some 30 years ago to be of very little aid in deciding upon the type of treatment. In spite of the fact that certain histological characteristics of the neoplasm influence the degree of malignancy and the response to irradiation, or radiosensitivity, it was found that about one-third of the biopsy material studied failed to indicate correctly the cancer cell predominating in the parent tumor.

The actual decision as to whether surgery or irradiation, or both, are to be relied upon mainly as the means of therapy in any particular case rests upon the merits of that case, as determined primarily by the joint opinion of the clinician, the radiologist, and the surgeon. The factor of greatest importance in the decision, however, must be the consideration of the skills and facilities in the particular hospital or clinic. A medical center well equipped to render radiological therapy, for instance, but without men particularly skilled in the matter of radical pelvic surgery, should wisely abstain from the latter and stress irradiation in the therapy of cervical cancer.

More important than the microscopic cell type and of paramount importance in deciding upon the treatment of cervical malignancy, even in larger centers where all types of facilities are first class, is the consideration of the location and extent of the malignancy, or, in other words, its League of Nations Classification. This classification, though leaving something definitely to be desired, has served a very useful purpose through the years and is now generally accepted both in this country and abroad. It is useful not only in determining the type of treatment but also in rendering prognosis and in comparing the results of various methods of therapy statistically.

As the League Classification makes no differentiation between gross lesions limited strictly to the cervix (Stage 1) and very early cancer detectable only by the microscope, but places them all in Stage 1, it appears that Te Linde's proposal to place microscopic lesions in a subdivision of Stage 1, usually called "Stage Zero," is a sound and practical one. At least the fourth American Congress of Obstetrics and Gynecology in 1950 adopted the proposal and made Stage O a subdivision of Stage 1. Admittedly, however, there are many who argue that this "carcinoma in situ" is actually rarely encountered. But, as these lesions have a different prognosis from the others and are usually treated in a different manner, it seems that a separate Classification may be justifiable. At any rate, its inclusion under Stage 1 does not affect the usefulness of the League Classification in the comparison of statistics accumulated over many years.

This Stage "O" of Te Linde includes the so-called

"carcinoma in situ," "intra-epithelial" carcinoma, and "pre" or "non-invasive" carcinoma. These are apparently different terms for the same histological picture of limitation of the malignant cells to the epithelium, with no invasion of the basement membrane. This "in situ" or preinvasive cancer, when seen in pregnancy, must not be considered a gravidoid change, as it persists after termination of pregnancy. Its average occurrence, according to most investigators, is in women from 35 to 36 years of age, as opposed to invasive cancer's average age of 45 to 48 years. Some do not agree, however, that there is this much age difference.

Growth in Stage O cancer is relatively slow, but once the process extends beyond the basement membrane and becomes a Stage 1 tumor its progress is usually rapid. In a practical sence the reason for stressing non-invasive cancer as a separate class is that it is amenable to rather simple therapy. According to Counseller of the Mayo Clinic, cautery or amputation of the cervix is proper therapy, provided the patient is checked for positive cells at regular intervals afterwards. Simple total hysterectomy is justifiable in older women. Radium therapy is seldom indicated in this early cancer—in fact, it is seldom justifiable because of the morbidity following its use.

Most workers in all countries agree that surgery, even of the most radical type, should be pretty well limited to Stages O, 1, and 2, with occasional exceptions in carefully selected Stage 3 cases. Most agree also that surgery is contraindicated in those with debilitating diseases; poorly compensated cardiac, respiratory, and renal diseases; and severe obesity. Obesity is, in fact, considered by many to be a greater deterrent to surgery than age.

Preoperative preparation is of paramount importance, because some of the surgery for cervical malignancy turns out to be really heroic. Besides the routine history and physical examination, proctoscopy, intravenous pyelograms, cystoscopy, and renal function tests are usually indicated. Some workers at Bethesda, Maryland, have used large doses of progesterone preoperatively, feeling that the gravidoid changes thus produced in the organs and tissues of the pelvis facilitate the surgery and may minimize complications. Preoperative antibiotic and chemotherapy is very important. The newer methods of supportive therapy, before, during, and after surgery, and modern anesthesiology also combine to enable the modern surgeon to reduce the high mortality rate from radical pelvic surgery to a more reasonable figure.

I do not propose to go into great detail with figures and percentages of treatments and survival rates from a long list of clinics, although a great many of these are available. I shall run over a few of them only briefly.

The Jefferson Medical College and Hospital treatment is conservative, i.e. essentially irradiation. The 5-year survival rate is 47.6%. Radical surgery, a modified Wertheim, is done only in patients with complications, such as ovarian tumors and myomata. Where the lesion is 1 or 2, it does well with irradiation and bilateral extraperitoneal pelvic lymphadenectomy. Carcinoma in situ is observed with circular biopsies and Papanicolaou smears at varying intervals. In some instances, in older women, with additional benign pelvic pathology, hysterectomy with bilateral adnexectomy is done.

Payne of Philadelphia uses radiation primarily, reserving surgery for certain limited instances. He maintains that recent radical and ultraradical surgery is commendable as an effort, but questions whether it is wise or humane at present.

At the Mayo Clinic irradiation has been standard treatment for cancer of the cervix for years. From 1915 to 1944, however, the highest survival rate (60%) was found in those treated with surgery *and* radium and roentgen rays, most of these patients being in Stages 1 and 2. It is thought that preoperative preparation of patients with radium will reduce distant metastases and recurrences.

About 10% of the surgical cases were in Stages 3 and 4 and were treated by radium and X-rays, and in 6 weeks subjected to a Wertheim hysterectomy with gland dissection. The Mayo people find that the morbidity after surgery and after radiation are about the same. The incidence of morbidity after surgery used to be as high as 90 odd percent, but in 1950 was down to about 50%.

At Johns Hopkins, surgery for cervical cancer, except for Stage O, has been practically abandoned; nearly all cases being treated with X-ray and radium irradiation. There are rare cases of radio-resistant tumors confined to the cervix or involving the vagina only slightly where the Wertheim operation is employed. The microscopic, or Stage O lesions, are treated surgically, partly in order to secure the cervix for histological study to establish with certainty the diagnosis, and partly to conserve an ovary in younger women. In the late 30's and beyond all adnexa are removed, but no gland dissection is carried out in any of these early lesions. Even for this conservative, non-radical operation the ureters are routinely catheterized preoperatively in order to make the procedure faster and safer.

In cases of questionable anatomic extent or stage, Cattaneo opens his patients up with a long incision. If enlarged nodes are encountered along the common iliac vessels or higher, he limits his surgery to lymphadenectomy, ligation of the internal iliac arteries and bilateral adnexectomy, but uses uterovaginal radium immediately, followed later by radiation. If, on the other hand, there are no nodes along the common

iliacs, a radical Wertheim, with drainage and plenty of penicillin, is done.

Stingl says that *no matter how early the stage of cancer,* a radical abdominal or vaginal hysterectomy should be done, or the patient should have intensive radium and X-ray treatment.

Kelso, in appropriate cases, does a radical abdominal hysterectomy with bilateral adnexectomy (Wertheim) together with transperitoneal pelvic lymphadenectomy (Taussig), with some cases given preoperative radium therapy and all of them post-operative X-ray therapy. He finds that this combination of treatment, however, gives about the same results in 5-year survivals as therapy with irradiation alone in the same locality.

Currie's cases were mostly in Stages 1 and 2. The majority received radium about three weeks before Wertheim-Taussig surgery. He also considers the radium as useful in reducing vaginal recurrences, but finds that 60 percent would have been cured by surgery alone. He had 79.5 percent *5-year* survivals in 44 patients and 66 percent survivals in 15 patients followed for *10* years. He concludes that surgery is a valuable adjunct to irradiation.

Two surgeons at the U. S. Naval Hospital at Bethesda, Maryland, have done a very radical operation on 50 very carefully selected patients. *No* irradiation was used. The results have been excellent so far, but the short time elapsed does not yet furnish any 5-year survival figures.

Inguilla has had a great deal of experience with Amreich's radical vaginal hysterectomy, which is a more radical procedure than Schauta's vaginal extirpation operation. Its rationale is based on the premise that complete removal of the pelvic connective tissue is far more important for the control of cervical cancer than resection of the regional lymph glands. Amreich did not believe that any patient with involved iliac glands ever survived a Wertheim operation for five years. On the other hand, if these glands were free of cancer cells, the patient's survival was not certain because the lymph vessels within the connective tissue may have been invaded and these could not be removed as thoroughly by the Wertheim procedure as by Amreich's vagino-perineal approach.

Inguilla admits that the intra-abdominal operation done by Brunschwig, Meigs, or Brevier overcomes the shortcomings of the Wertheim operation. But this procedure, he says, requires supportive therapy, anesthesia, and assistant staffs of a high order, which are not readily available in the average hospital. The Amreich operation on the other hand can be done by an average skilled gynecologic surgeon in an average hospital. It is extremely well tolerated, even by poor risk patients, and can be applied to all Stage 1 and 2 patients and some in Stage 3. Thorough knowledge of fascial planes is necessary. With this surgery the author's operability rate for cancer of the cervix rose from 10 or 12 percent before November, 1950, to 52.8 percent since and he has had no mortality in 35 patients. This is admittedly a small series.

Now, realizing the desirability of removing the regional glands also, he has recently added a secondary pelvic lymphadenectomy to be done one month later by the one stage technique of Taylor and Nathanson.

Brennier and Ferenze in France use the combined radio-surgical approach in Stage 1 and 2 cancer. Radium is followed in 6 to 8 weeks by the Wertheim operation. If malignancy is found in the removed glands, post-operative radiation is given. They also employ heroic surgery in occasional selected cases of Stage 3 and 4 lesions, followed by radium and roentgen therapy.

Schjott-Rivers in Norway admits that historically irradiation has so far given the best results, but he feels these results may possibly be improved by a so-called "prophylactic" hysterectomy, (1) to prevent local recurrence, (2) to remove a tumor not very radiosensitive, and (3) to diagnose non-palpatory metastases and their location. This prophylactic hysterectomy is a simple total procedure and is done six to eight weeks after radium therapy, when the reaction from the latter has subsided, but *before* the result of the radium treatment is known. Because 22% of these removed uteri have shown malignancy, it is believed that a higher cure rate is being reached than with irradiation alone.

Yagi of Japan reports a 5-year cure rate of 90.9% in a series of Stage 1 cases and 61.7% in Stage 2. These results were obtained by using a radical operation developed by Okabayashi in 1927. This procedure is definitely more extensive than the Wertheim and is followed by irradiation in about 3 weeks. He demonstrates that his results with this therapy are markedly better than with radiation alone in most cases. In other words his experience differs somewhat from that of most other clinics. This author points out, incidentally, that in his clinic the best results from radiation alone are obtained with deep roentgen therapy, radium, and Schaefer's intravaginal cone.

Victor Bonney's extensive experience in England with the Wertheim operation and more recently with a more radical version of his own has furnished a great deal of statistics, which, allowing for a somewhat higher operative mortality with his abdominal approach, compares quite favorably in absolute 5-year cures with the vaginal operation of Amreich. In a series of 500 cases Bonney used irradiation only in those cases in which masses of carcinoma were known to be left adherent to the great vessels.

Nielson estimates that the incidence of true stump

cancer is about 1%. This does not, of course, include cancer present at the time of the supra-vaginal hysterectomy. Most investigators believe that cancer develops in the stump more readily when the ovaries are preserved, although a lesser number believe the reverse is true, that cancer changes develop in genital involution following castration. In 12 cases, all treated with radium and X-rays 60% are alive and symptom-free after 5 to 11 years. The others died of the growth. The author believes that a thorough gynecological examination and a D & C should be done in all cases where inspection of itself does not arouse enough suspicion to warrant biopsy, *before* any supra-vaginal hysterectomy is done. The fact that the prognosis of true stump cancer is not at all unfavorable, however, lends support to the continuance of prophylactic supra-vaginal hysterectomy.

Le Clerc in general concurs with Nielson in the method of treatment of stump cancer. If surgery is used it should be by the abdominal approach in order to dissect out the lymph nodes. He emphasizes with Nielson that in menorrhagia all methods of diagnosis of cervical cancer should be used before doing a subtotal hysterectomy.

Adenocarcinoma comprises 5 to 10% of all cervical neoplasms. In age at onset, gross appearance, and symptoms it resembles the squamous cell type, but it is apt to be more radio-resistant. The treatment, therefore, may more frequently involve surgery, usually in conjunction with irradiation.

There is no question but the newer therapy of cancer of the cervix by means of extremely radical surgery in receiving increasing attention. The Wertheim operation has, in fact, become a rather conservative procedure in many centers.

In England, Bonney and his colleagues persist in a radical abdominal hysterectomy, somewhat modified from the original Wertheim. In Europe the radical abdominal hysterectomy, Schauta's radical vaginal extirpation, and irradiation are all being used. In the United States irradiation alone is probably being used more extensively than with surgery. In Japan it's radical surgery by the abdominal approach followed by irradiation. There seems to be no remarkably outstanding percentage of 5-year cures with any of these methods. If there were that method would naturally be used by all.

Summary and Conclusion

Regarding surgery in the treatment of cancer of the cervix some conclusions can definitely be drawn.

Patients can undergo amazingly radical surgery today with surprisingly low operative mortality.

The morbidity rate, especially in urinary complications, is too high—about as high as with irradiation.

Many patients adjust more easily to surgery and irradiation than to the latter alone.

Surgery is definitely a useful adjunct to irradiation.

Irradiation is sufficiently successful to warrant continuation for most patients. The Wertheim is not intended to supplant radiation, but to supplement it.

In conclusion, the incidence of invasive cancer of the cervix can be reduced by finding more patients with pre-invasive cancer. The general practitioner can do his share toward the accomplishment of this objective by doing routinely meticulous gynecologic examinations, taking routine vaginal and cervical smears for cytologic study, and doing biopsies and curettages whenever suspicion is aroused. This applies to all patients of "cancer age" and even to the apparently "well" woman. Thus there may be less work for the roentgenologist (poor fellow!), more work for the surgeon, and more health and happiness for the patient.

TRILENE IN OBSTETRICS

Armand Albert, M. D., Van Buren, Maine

The use of Trilene in obstetric analgesia, amnesia, and anesthesia has been rapidly coming to the fore in recent years.

It was first discovered and used in England, then passed on to Canada and has recently made its appearance in the United States.

We have been using it routinely, at our Hotel-Dieu Hospital since April, 1951, and have found it to have so many advantages, that we wish to acquaint our Maine colleagues with its safety, ease of administration and remarkable results.

In our opinion it is so far ahead of anything that we have hitherto been using, that it will be a long time, we believe, before any better agent is found. Since April, 1951, we have used it in about 350 cases, have done versions, applied low forceps, and done episiotomies while using it. In very few cases have we had to change to a more powerful anesthetic in order to obtain deeper relaxation.

Here are some of its properties and advantages:

It is quite stable and if ordinary precautions are taken, such as being kept in a cool place, in airtight and dark-colored containers, it will not deteriorate.

It is non-explosive under ordinary conditions of

use. The apparatus that we use allows the Trilene vapors to be mixed with air, and used this way it is absolutely safe. However, when mixed with pure oxygen, in a concentration above 24% it becomes explosive. It is dangerous to smoke in a room where Trilene is being administered, as it is then decomposed into hydrochloric acid and phosgene, and the resulting vapors when inhaled are very toxic. It is also dangerous when used in a closed circuit anesthesia machine, using lime as a reducing agent.

Besides being non-inflammable it is relatively non-toxic. Even its prolonged use does not seem to affect the liver or the kidneys. It has no adverse effect on a normal heart, but its use in severe impairment of the myocardium is not advised.

It causes no nausea or vomiting.

It does not inhibit uterine contractions and thus will not slow up labor as other agents sometimes do. However, we have found that when the apparatus is opened wide, contractions are slowed down and sometimes stopped. We then have to remove the mask for a minute or two, following which contractions return as strong as ever.

It does not seem to have any effect on the fetus, and we have not seen any asphyxia of the newborn attributable to its use.

The mother wakes up within two minutes after it is discontinued and feels as fresh as awakening after a normal sleep. She can take liquids and even light food within an hour. This is due to the fact that Trilene undergoes no decomposition and assimilation in the body, and is rapidly eliminated by the lungs and to a slight degree by the skin. This property allows a rather prolonged use of Trilene, and we have had a case that used it intermittently for over 12 hours without any untoward effects whatsoever.

Its smell is not unpleasant and when administered slowly at first and gradually increased is well taken and does not choke the patient.

There is little danger of giving an overdose of Trilene, since the apparatus brought out by Duke University is graduated and the flow of vapor is regulated. However, in certain cases, if the rate of respiration increases quite fast, it is a sign that that particular patient is getting too much, and by removing the mask for a minute or two everything returns to normal.

It is not too good as an anesthetic, as even when given wide open, there is no complete relaxation of the patient. It is, however, a very good analgesic, and the pains of parturition are very effectively dulled after just a few whiffs.

But the property that amazes every one the most, is its remarkable amnesic effect, and it is this amnesia that pleases the patient most. I shall cite one case that illustrates this best. In April, 1951, I had used Trilene but a few times. An out-of-town patient came to the Hotel-Dieu Hospital, in full labor. I was called to attend her and found a patient with complete dilatation, pains strong and three minutes apart. She was coming along fast, and very luckily. Her heart, on examination, was so bad that I decided to deliver her without any anesthesia whatsoever. We had the Trilene apparatus ready in case it should be needed. The membranes were ruptured and the baby was born within two minutes. The patient was suffering so much that I allowed her four whiffs of Trilene. However, she kept yelling and as soon as the shoulders were born I removed the Trilene. The nurse in attendance was not too enthusiastic about this new drug, because it had not seemed to give any relief. But about 20 seconds after removing the apparatus, the patient opened her eyes and said, "I do hope the baby is born soon because I cannot stand any more pain." Just then the baby cried and the mother was astonished as she did not remember its being born. A sad aftermath to this case occurred some 14 months later, when she was being prepared for a curettage, in her home town; she died on inhaling the first 30 drops of ether.

When the Trilene apparatus is opened to the first or even second notch, patients talk, answer questions, obey commands to bear down, and sometimes have a laughing jag. They answer rationally, and seem to be fully cognizant of everything, but in almost every case, after the blessed event is over, they do not remember a single thing.

In the early stages of labor, the patient administers the anesthetic herself during contractions and removes the mask when the contraction has passed. This can go on for a few hours and is very much appreciated by the nurse in attendance, who can leave the patient for a few minutes to give or remove a bedpan, give an injection, etc.

We have found that there is very little danger of burning a patient's face with Trilene, since after each administration, the apparatus is opened and any remaining Trilene is shaken out. However, when administered for a fairly long time it is wise to wipe off, now and then, the condensation that accumulates in the rubber mask. We had a few cases of mild dermatitis, before we found out that Trilene vapors condensed in the mask and ran down on the patient's face.

There is no criterion like experience to make us appreciate a product, and Trilene is no different. The few doctors who have tried it and given it up, did not really give it a good try, or else they did not understand how to administer it. For our part it was only after we had used it for a few months that we came to know it well and appreciate its remarkable results.

CHOLECYSTITIS*

George E. Young, M. D., Skowhegan, Maine

Cholecystitis, acute inflammation of the gallbladder, can be rather difficult to differentiate from inflammation of adjacent viscera. Character of the inflammation may demand rapid decisions; such a gallbladder may rupture, causing serious peritonitis. The exact mechanism by which an acute inflammation of the gallbladder is instituted is still somewhat in doubt. Pathological reports show occasionally vascular obstruction producing hemorrhagic infarctions with subsequent cholecystitis. As a rule acute cholecystitis is a non-specific infection caused by streptococcic, staphlococcic or one of the colon groups. These micro-organisms may reach the gallbladder by way of the blood stream, bile or the lymphatics, rarely by direct extension from neighboring organs. It has been shown experimentally that temporary increase in the bile salt content in the gallbladder may produce an acute cholecystitis. Enzyme action, reflux from pancreatic secretions into the gallbladder may be a cause.

In acute cholecystitis from whatever cause, the involvement usually commences within the mucosa and extends outward, infiltrating the wall with edema fluid, and extravasation of blood causing enlargment, firmness and red-brown discoloration of the viscus, with an up to ten-fold increase in the thickness of its wall. Flat X-ray film of the area without dye usually gives a good outline of this type of gallbladder, remembering that a normal gallbladder cannot be seen on a flat plate using standard measurements. The lumen of the gallbladder usually contains a mixture of bile flooded pus, very rarely gallstones if this be the first attack. All layers of the gallbladder are spread apart, highly infiltrated with red blood cells and polynuclears. Duodenal drainage is very useful at this stage. This acute process may end in perforation of the gallbladder with acute focal or diffuse peritonitis or it may subside. If it does subside, it goes on to the state of chronic cholecystitis which can become acute at any later date. In this last phase we have a gallbladder acutely inflamed and the gross appearance at operation differs little from that seen in the acute cholecystitis except stones are usually present. Again X-ray studies, especially with a flat film first, are most helpful. Our X-ray studies at this period have shown an easily visualized gallbladder wall with evidence of stone formation in the gallbladder. There has been a good deal written in the past years concerning chemistry of gallstones and its relation to the inflamed gallbladder. The question whether the gallstone precedes the inflammation of the bladder or visa versa is still unsettled, but one would think that the role played by the faulty composition of the bile and stagnation, plus inflammation, would be the deciding cause of stone formation, since the classification of gallstones would harmonize their composition with the disturbance of these functions, together with the changes in the structures of the organ concerned.

I believe the greatest help at this point is a study of the duodenal drainage, not only the classification of the bile by the absence or presence of cholestrol and/or calcium bilirubinate crystals, pus mucus and polynuclears. In our small series, pus, mucus, etc., was often demonstrated in the acute cholecystitis. It seems that nearly 90% of proven stones in gallbladder ducts at operation showed both calcium bilirubinate and cholestrol crystals in duodenal drainage preoperative tests.

As to symptoms, the gallbladder is located in a situation where there are many things that can happen in other viscera in close relation to the gallbladder that would give similar symptoms. Furthermore, symptoms can be referred to or from the gallbladder area. As a rule early gallbladder symptoms are referred to the epigastrium. In the history, flatulence, changes in bowel habits and indigestion are common findings. The symptoms of gallbladder colic need not be discussed here. Scapula pain usually means an attempt of the gallbladder to empty itself, so one must assume that there is being an attempt to empty the gallbladder, or at any rate an attempt to force its contents through an obstructed cystic duct, whether it be stones, pus or what-not. Our laboratory tests are helpful, especially if the patient has jaundice, and of late years the so-called viral infections of the liver have added to our difficulties. I believe that the decision must be made early whether we are dealing with a surgical or medical condition. Of all the various classifications of icterus, Riche's classification into retention and regurgitation varieties, with subdivision of the latter into parenchymal hepidocellular or medical types on the one hand and mechanical extra hepatically obstructive or surgical types on the other hand, seems the most useful. I think one would have little difficulty in diagnosing hemolytic jaundice. This, of course, is the best example of retention jaundice. For practical purposes under mechanical headings are considered stones, cancer and strictures. For group studies, such cases call for a planned procedure based upon individual choice and facilities

* Presented at the Surgical Panel on Acute Abdominal Emergencies during the Annual Session of the Maine Medical Association, June 23, 1952.

offered. It has been said that the least harm is done to the patient by waiting a week or ten days for diagnosis in presence of mechanical obstruction than in the sad case of surgical intervention of patients with parenchymal lesions.

The different types of pancreatitis has confused us somewhat. The pain of pancreatic cancer is usually vague in onset, annoying at first, and is noted in the epigastrium, especially distressing at night and later radiating to the left and through to the back. Pain is accompanied by a rapid wasting and jaundice. An occasional attack of thrombophlebitis strongly suggests the presence of cancer, especially in the pancreas. We have had Ampulla cancer obstructing the common duct. This condition is rare, usually silent, and so far has not been diagnosed preoperatively in our group. According to the literature, the symptoms are that of cholelithiasis and in a great many of the cases the two diseases are associated.

Thinking of the problem as a whole, one may safely make the following statement: that if the patient has real pain he should be considered surgically, while the absence of pain is of minor assistance. General examination of the abdomen can be of great help. With a postcecal appendix one is very apt to get a distended ascending colon that would give a tympanitic note to percussion, but never does one get a tympanitic note over an inflamed gallbladder. They can be quite close as to location for we have taken out appendices that were actually under the liver and we have seen gallbladders that had descended nearly, or at least a good ways towards McBurney's point.

In our X-ray studies, we have noted that there is usually enlargement of the right lobe of the liver in diseases of the gallbladder that have existed any length of time. We have not encountered an enlarged spleen, commonly seen in hepatitis. Edema not otherwise explained occurs only in parenchymal disease extensive acute or subacute hepatitis. Of all the liver and ascites is usually a manifestation of cirrhosis or tests, cephalin cholesterol flocculation tests seem to be most helpful. As a rule the values in excess of one plus are almost always indicative of diffuse parenchymal liver disease. If this were due to obstructive or surgical jaundice, one would have to have a history of long standing disease. Icterus index is relatively crude although rather useful to determine the degree of jaundice and its changes for serial determinations. Urobilinogen when absent in the urine should mean complete obstruction, and so on, but one must choose his own group of tests with which he is most familiar and which have meant the most to him as an individual in his final differential diagnosis.

In the past few years we have been making interesting investigation through our T-tube with Lipiodol for studies of the common duct and liver radicals to determine whether or not we have stone or strictures in the ducts. We are now beginning to inject the common duct, usually as soon as the abdomen is opened, with 70% diodrast hoping to get this information early in the operation.

EVALUATION OF CHEST X-RAY SURVEY PROGRAMS IN MAINE HOSPITALS*

Alta Ashley, M. D., M. P. H.**

Throughout this country it has been found that general hospital populations show a high incidence of tuberculosis, many cases of which were previously undiagnosed. Such a situation is easily understandable. Persons with tuberculosis are frequently ill, though only vaguely so, and seek medical care. Tuberculosis is a great mimicker and in early stages assumes the character of many illnesses for which general hospital care is offered. Unrecognized tuberculosis may coexist with intercurrent illness, such as acute appendicitis or auto accidents. Siegal, Plunkett and Hilleboe,[1] in a report covering a total of 195,751 patients over 15 years of age admitted to 41 general hospitals in New York State, estimated that 2.5 cases of active tuberculosis, hitherto unsuspected, would be found for every 1,000 patients X-rayed, and that 20.3 per 1,000 X-rayed would be considered to have lesions suspicious of tuberculosis and 5.1 of these would have the disease in active form.

It is clear from the above that general hospital admissions can be a very fertile ground for case-finding. Routine roentgen examination of the chests of all persons admitted to general hospitals would not only turn up unknown cases of tuberculosis and thereby protect the community, but protection for the staff of

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Editorial Note: This is the second of two articles on related subjects by Dr. Ashley (the first on The Status of Tuberculosis Control in Maine—A Critical Study, was published in the March issue of the Journal). "In the interest of economy," Dr. Ashley has given us permission to dispense with Tables I, II, V and VI, which are referred to in this article. Data contained in these Tables may be obtained from the author on request. The graphs appearing with this paper were provided by the Department of Health. Our thanks to Dr. Ashley and the Department of Health for their coöperation.

the hospital would also be obtained. It is well known that the incidence of tuberculosis among internes, nurses and other hospital employees is very high. The prevention of one case of tuberculosis in this group would more than justify the time, effort and expense of an admission chest survey program.

Several of the larger hospitals in Maine have undertaken such a program with the aid and encouragement of the Maine Tuberculosis Association and the Bureau of Health. Aid from the State Department of Health and Welfare and the Maine Tuberculosis Association has been both advisory and financial. Photofluoroscopic units have been loaned in some instances, film and technical help given in others. The interest of these two organizations in furthering such programs is three-fold: (1) an undiagnosed case of tuberculosis in a general hospital is a hazard to his fellow patients and to those of the staff who come in contact with him; (2) if discharged undiagnosed from the hospital, he is a threat to his community and family; and (3) potential cost of care of contacts is reduced when a previously undiagnosed case is brought under treatment. Such programs have been in action since 1949. It was felt that it was time to take a critical view of the results.

During the summer of 1952 five hospitals were visited and data obtained. Each hospital faced situations and problems, many of which were individual and seldom shared with the group as a whole. One hospital dealt chiefly with private patients, one is close-by a large tuberculosis sanatorium and receives for diagnosis only a small portion of out-patients with any suspicion of chest disease in the vicinity. Only one hospital had a large out-patient clientele of clinic type. Policies of X-raying patients varied with the situation in which the hospital found itself and ranged from a policy of photofluoroscopic examination of all admissions (with exception made at the discretion of the person in charge of the chest survey program), to the limitation of such examinations to personnel and out-patients (a very small group).

The following Table shows the percentage of hospital admissions who received a roentgen examination of the chest, *routine* or *diagnostic,* in three of these hospitals.

Chest X-ray Examinations
Among Patients Admitted to Three Hospitals

Hospital	Year	Admissions	Number X-rayed	% X-rayed
A	1949	4918*	3170	63.6
	1950	4880	2512	51.6
	1951	5035	2461	48.9
B	1950-51	5511**	2715	49.2
C	1950-51	7372**	1709	23.2

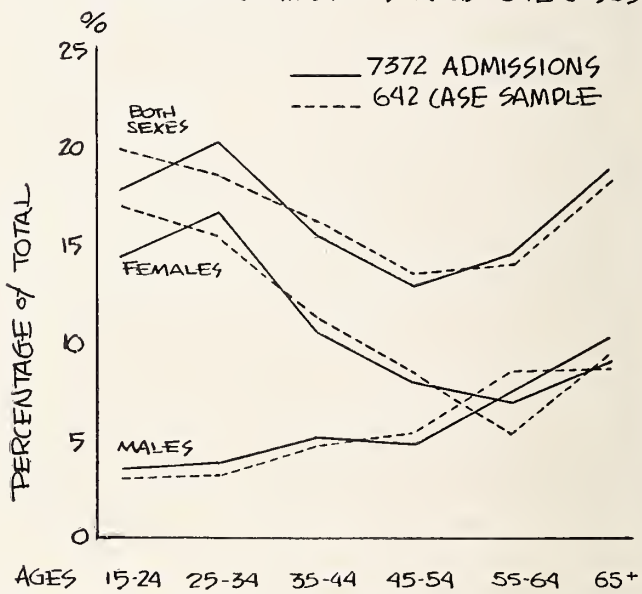
* Exclusive of newborns only.
** Exclusive of all under 15 years of age.

The percentage of admissions X-rayed varies widely among these hospitals. The falling percentage in the case of Hospital A suggests that there is a discrepancy between the total admissions and the number of individuals admitted during one year. To ascertain what the true status of chest X-ray programs was, a detailed study of Hospital C was undertaken. This hospital was chosen because its chest survey program includes both in-patient and out-patient services and involves the taking of approximately 10,000 films yearly, the largest number among the three hospitals involved.

Six hundred and forty-two records were examined. These were records of patients admitted during the first week of July and October, 1950, and January and April, 1951. This was not a true random sample but was unselected enough for purposes of the study. There was a close correlation of the age and sex distribution of these cases with that for total hospital admissions for the year, showing that the sample was representative of the total. Graph I, Table I (see Editorial Note).

GRAPH I

COMPARISON of AGE and SEX DISTRIBUTION IN 7372 ADMISSIONS AND 642 CASES



Each record was carefully examined for any indication of a chest roentgen examination during or within one year of admission. Because records in this hospital are not the unit type and few private practitioners include in their hospital records results of examinations made outside the hospital, the accuracy of this study was limited.

The policies of the chest survey program of this hospital were as follows:

1. All ambulatory patients admitted were to be photofluorographed with the following exceptions:
   (a) those with known chest disease; these would receive regulation 14 x 17 film examinations at the discretion of their attending physician,
   (b) private patients; they would have such an examination on order of their physician,

(c) patients from obstetrical, tumor, or cardiac clinics; these would be photofluorographed only if a roentgen chest examination had not been done within a year of admission. Such patients were considered to have been presumably examined even in the absence of any statement to the effect in their records.

2. Non-ambulatory patients were to have photofluoroscopic examinations at the discretion of their attending physicians.
3. Patients who had had a chest roentgen examination within a year of admission were exempted, except on order of their attending physician.

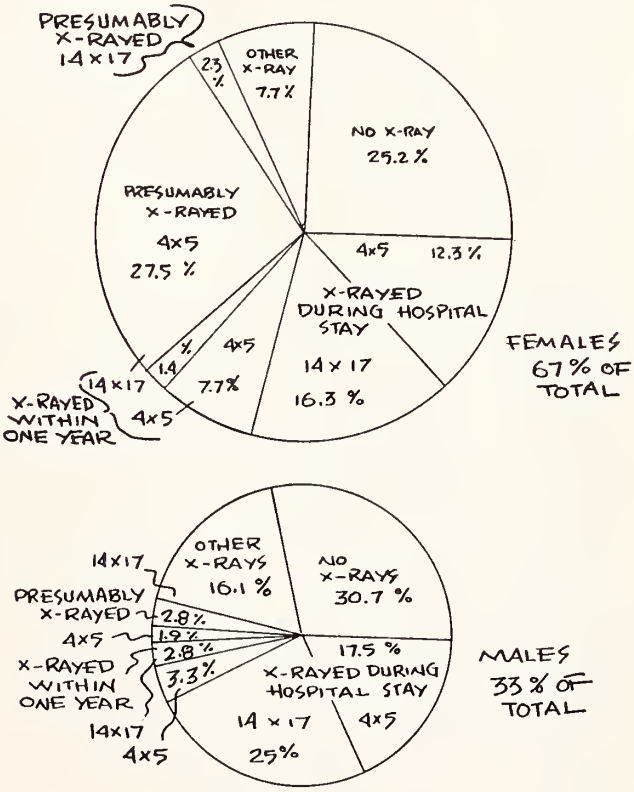
These exceptions eliminated a large portion of patients admitted to the hospital and, if included in the total figure for those receiving chest X-rays, would conceivably raise the percentage of persons with known chest status, to or above the percentages of the other two hospitals, both of whom have a very small number of out-patients.

X-ray experience of the 642 cases in the sample is given in Table II (see Editorial Note), the experience of 212 males and 430 females in the study in Tables III and IV. It is interesting to note that the percentage of patients receiving chest X-ray examinations during their hospital admission was 23.2% in both the sample and in the total admissions for the year. When those patients who gave a history, or a presumable history, of having had an X-ray within the year were included, the percentage of persons whose chest status was known at the time of discharge rose to 72.5%. Persons receiving fluoroscopic examination of the chest or upper gastrointestinal tract during the course of a G-I series or some other study were included in the group of those presumably X-rayed, even though no mention of their chest status was made in the record. This was felt to be justified since it is customary to mention only abnormal findings in such examinations, although careful chest examinations are always carried out. Patients referred from prenatal and tumor clinics were also included in the group of those presumably X-rayed since a chest X-ray examination is a routine procedure on admittance to these clinics. Persons who received other X-ray examinations, such as of the abdomen, extremities, etc., with no mention of the chest, were considered not to have had a chest roentgenogram.

Ninety persons (14.0%) received an examination or survey film during their hospital stay, and an additional 123 (19.2%) received one on regulation 14 x 17 film. The age distribution among those receiving the survey film was fairly even. In contrast to this, the percentage of persons examined by 14 x 17 film increased with age. Of the ninety persons receiving a survey film, 53 were women. Twenty of the 123 receiving 14 x 17 films were women.

7.7% of women and 3.3% of men had had a survey film within a year of admission, whereas 1.4% of the women and 2.8% of the men had had a 14 x 17 film. The great difference between the sexes lay in those presumably surveyed within the year. Here we find that 27.2% of the women, in contrast to only 1.9% of the men, had apparently been surveyed. Most of these women were in the two youngest age groups and represented obstetrical patients to a large extent. These obstetrical patients comprised more than 50% of admissions in these age groups. The percentage of the total sample who presumably were examined within the year on 14 x 17 film was 1.6 for males and 0.9 for females. See Graph II.

GRAPH II
CHEST ROENTGEN EXPERIENCE AMONG 642 CASES BY SEX, TYPE and TIME OF X-RAY



In 11 cases, a diagnosis of tuberculosis was confirmed. These comprised 1.7% of the total number in the sample. All were men; 5 were considered to be active. The ages of the active patients were 25, 33, 34, 49, and 59. One of these, the 33-year-old man, was not previously known to have pulmonary tuberculosis, although he had a history of having had bone tuberculosis at 14 years of age.

There were 3 other cases of tuberculosis, all inactive supposedly, who received no X-ray during

TABLES III AND IV

X-ray Experience of 212 Males

Age Groups and Percent.	No. X-ray	4 x 5			14 x 17				Pathol.			Service		Total
		On this adm.	Within 1 yr.	Pre-sum.	On this adm.	Within 1 yr.	Pre-sum.	Other X-rays	Tbc	Ca	Other	Priv.	Ward	
15-24	5	3	—	3	5	—	1	2	—	—	—	7	12	19
% total	0.8	0.5		0.5	0.8		0.2	0.3				1.1	1.9	3.0
% sex	2.4	1.4		1.4	2.4		0.5	1.0				3.3	5.7	9.0
25-34	8	3	—	—	3	—	—	6	3	—	2	16	4	20
% total	1.3	0.5			0.5			0.9	0.5		0.3	2.5	0.6	3.1
% sex	3.8	1.4			1.4			2.8	1.4		1.0	7.6	1.9	9.4
35-44	12	5	2	—	5	3	2	1	—	—	3	20	10	30
% total	1.9	0.8	0.3		0.8	0.5	0.3	0.2			0.5	3.1	1.6	4.7
% sex	5.7	2.4	1.0		2.4	1.4	1.0	0.5			1.4	9.4	4.7	14.2
45-54	11	4	1	—	8	—	2	7	2	1	3	19	14	33
% total	1.7	0.6	0.2		1.3		0.3	1.1	0.3	0.2	0.5	3.0	2.2	5.2
% sex	5.4	1.9	0.5		3.8		1.0	3.3	1.0	0.5	1.4	9.0	6.6	15.6
55-64	18	10	2	1	13	—	1	9	3	—	5	37	17	54
% total	2.8	1.6	0.3	0.2	2.0		0.2	1.4	0.5		0.8	5.8	2.7	8.4
% sex	8.5	4.7	1.0	0.5	6.2		0.5	4.2	1.4		2.4	17.5	8.0	25.5
65 and over	11	12	2	—	19	3	—	9	3	—	13	31	25	56
% total	1.7	1.9	0.3		3.0	0.5		1.4	0.5		2.0	4.8	2.9	8.7
% sex	5.2	5.7	1.0		9.0	1.4		4.2	1.4		6.2	14.6	11.8	26.4
Total	65	37	7	4	53	6	6	34	11*	1	26	130	82	212
% total	10.1	5.8	1.1	0.6	8.3	0.9	0.9	5.3	1.7	0.2	4.1	22.2	11.8	33.0
% sex	30.7	17.5	3.3	1.9	25.0	2.8	2.8	16.1	5.2	0.5	12.3	61.4	38.7	100.1

X-ray Experience of 430 Females

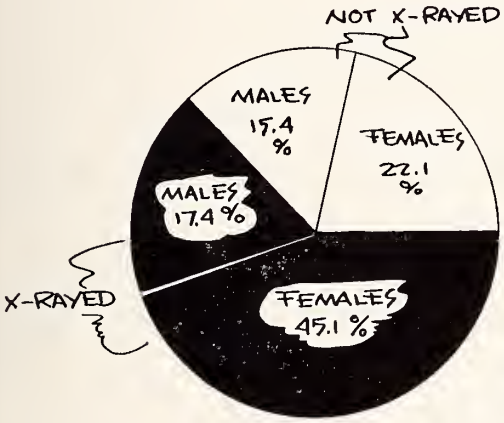
15-24	18	12	8	61	3	1	—	5	—	—	—	52	56	108
% total	2.8	1.9	1.3	9.5	0.3	0.2		0.8				8.2	8.7	16.9
% sex	4.2	2.8	1.9	14.2	0.7	0.2		1.2				12.1	13.0	25.2
25-34	18	8	16	46	10	—	—	1	—	—	1	68	31	99
% total	2.8	1.3	2.5	7.2	1.6			0.2			0.2	10.5	4.9	15.4
% sex	4.2	1.9	3.7	10.7	2.3			0.2			0.2	15.8	7.2	23.0
35-44	23	13	6	9	8	2	3	8	—	—	2	55	17	72
% total	3.6	2.0	0.9	1.4	1.3	0.3	0.5	1.3			0.3	8.6	2.7	11.2
% sex	5.3	3.0	1.4	2.1	1.9	0.5	0.7	1.9			0.5	12.7	4.0	16.7
45-54	17	11	2	—	16	—	3	5	—	1	6	42	12	54
% total	2.6	1.7	0.3		2.5		0.5	0.8		0.2	0.9	6.6	1.9	8.4
% sex	4.0	2.6	0.5		3.7		0.7	1.2		0.2	1.4	9.8	2.8	12.6
55-64	11	2	—	1	11	3	—	8	—	3	4	22	14	36
% total	1.7	0.3		0.2	1.7	0.5		1.3		0.5	0.6	3.4	2.2	5.6
% sex	2.6	0.5		0.2	2.6	0.7		1.9		0.7	0.9	5.1	3.3	8.4
65 and over	21	7	1	—	22	—	4	6	—	1	17	35	26	61
% total	3.3	1.1	0.2		3.4		0.6	0.9		0.2	2.6	5.5	4.1	9.5
% sex	4.9	1.6	0.2		5.1		0.9	1.4		0.2	4.0	8.1	6.1	14.2
Total	108	53	33	117	70	6	10	33	—	5	30	274	156	430
% total	16.9	8.3	5.2	18.4	10.9	0.9	1.6	5.2		0.8	4.7	42.7	24.3	67.0
% sex	25.2	12.3	7.7	27.2	16.3	1.4	2.3	7.7		1.2	7.0	63.8	36.2	100.0

* 5 active, aged 25, 33, 34, 49 and 59; one, 33 years, not previously known.

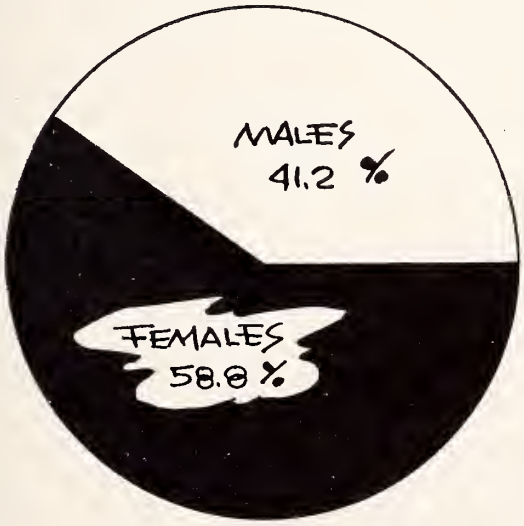
their hospital stay. One of these was an obstetrical patient and presumably had had a survey film during her pregnancy. Another was a 27-year-old girl whose tuberculosis was apparently healed in 1947. The third was an 80-year-old man whose disease was said to have been healed in 1948.

The group which chiefly concerns us is the 37.5% of admissions whose chest status was presumably not known during their hospital stay. There were 240 persons in this group; 99 males and 141 females, 66 ward and 174 private patients. See Graphs III and IV.

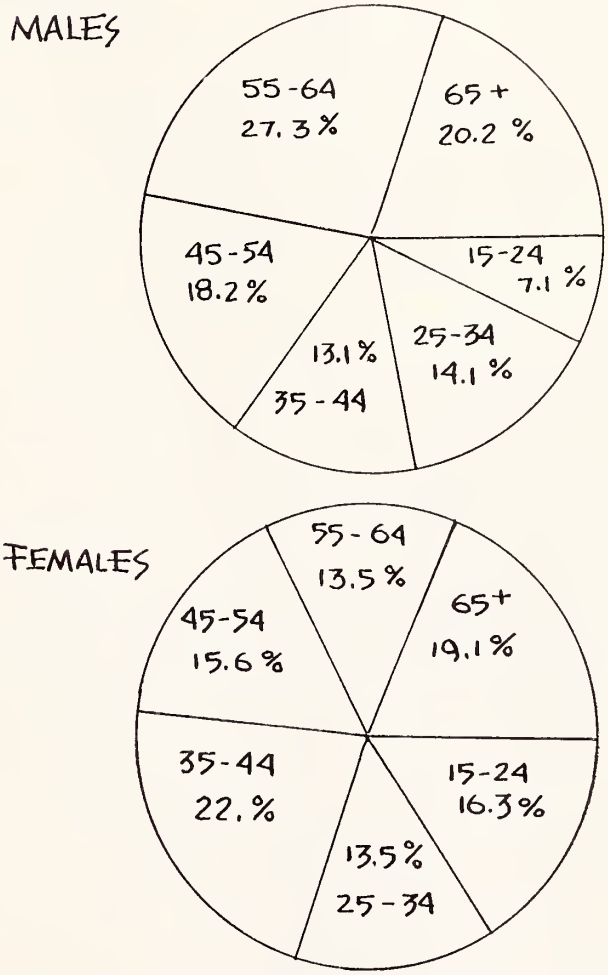
GRAPH III
PERCENTAGE DISTRIBUTION
OF X-RAYED and NOT X-RAYED INDIVIDUALS
IN 642 CASES BY SEX



GRAPH IV
PERCENTAGE DISTRIBUTION
(BETWEEN SEXES)
OF 240 CASES NOT X-RAYED

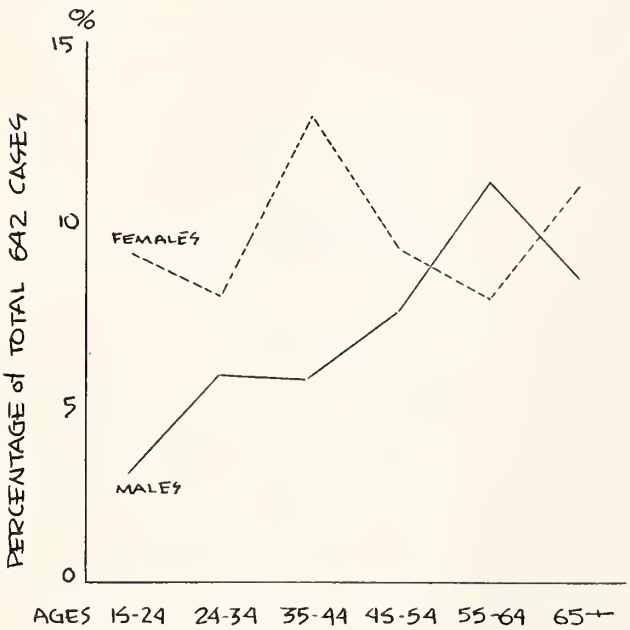


GRAPH V
PERCENTAGE DISTRIBUTION OF
240 NON-X-RAYED INDIVIDUALS
by SEX and AGE

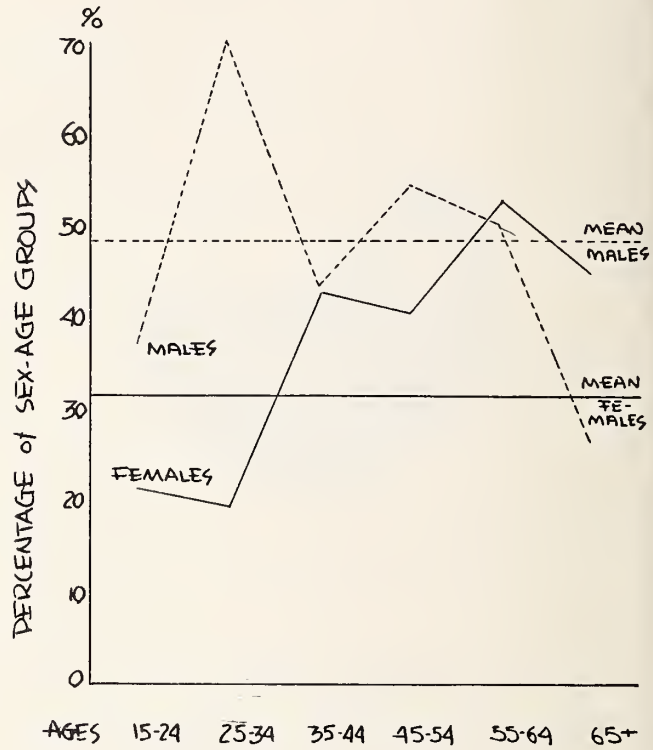


Graph V shows the age distribution of the males and females who were not X-rayed. Data on which this graph was based may be found in Table V (see Editorial Note). The largest percentage of males fell in the age group over 55 years of age. There was a fairly even distribution according to age group among the females. When compared to the total number of cases in the sample, a somewhat different distribution is obtained. At first glance, one would assume that males in the younger age groups fared quite well and far better than females in the same age group (Graph VI). True, the actual number of males not X-rayed in these age groups is small, but so is the number of admissions. When the number not X-rayed was compared to that for patients admitted in each sex-age group, an entirely different picture was obtained, as shown in Graph VII. 47.2% of males and 32.8% of females were not X-rayed, but 70.0% of males between 25 and 34 years of age were not X-rayed as against 19.2% among the females. Elderly men, over 65 years of age, faired somewhat better than females of the same age. Only 26.7% of the men as compared to 44.3% of the women in this age group were not X-rayed.

GRAPH VI
DISTRIBUTION BY PERCENTAGE OF BOTH SEXES OF AGE-SEX GROUPS AMONG 240 CASES NOT X-RAYED IN 642 ADMISSIONS



GRAPH VII
PERCENTAGE DISTRIBUTION of AGE-SEX GROUPS NOT RECEIVING CHEST X-RAY EXAMINATIONS DURING HOSPITALIZATION



In order to see just what type of patient, if any, was being overlooked in the chest survey program, further analysis was made of the 240 non-X-rayed patients in the 642 case sample. Cases were divided into private and ward services. Notation was made (a) as to the length of hospitalization (over or under 36 hours); (b) if it was apparently impossible, because of the patient's condition, to take an X-ray; (c) if there were symptoms suspicious of tuberculosis (chronic osteomyelitis, fistula-in-ano, hemoptysis, etc.); (d) if there was a past history of tuberculosis either as a patient or as a contact; (e) if there was a history of cancer, diabetes, or some type of chest disease. Patients were also classified accordingly: (a) obstetrical patients who apparently had had no prenatal care (early abortions, etc.); (b) those who underwent general anesthesia; (c) and those admitted to orthopedic and genito-urinary or gynecological services. This last category was made because of the large number of cases it included. Since one case often found itself in more than one category, the sum does not equal the total. For this reason, no percentages were calculated except for service and sex distribution, Table VI (see Editorial Note).

There were 65 or 27.0% ward and 175 or 73.0% private patients in the 240 cases who received no chest X-ray examination. The proportion among the entire 642 cases was 37.0% ward and 63.0% private patients, showing that chest X-ray examinations tended to be deferred more often among private than among ward patients.

Seven men and eight women remained in the hospital less than thirty-six hours; the condition of 16 men and one woman was apparently such as to preclude a chest X-ray examination. Thus 23 men and nine women, presumably, would not have been X-rayed under the strictest of regulations.

Turning to the other side of the coin, we see among those not X-rayed 49 men (13 ward and 36 private patients) who were on the orthopedic or genito-urinary services; four men, two of whom received ACTH or Cortisone therapy, who had symptoms suspicious of tuberculosis; six men who had a history of contact with or actual tuberculosis; and 24 who underwent general anesthesia.

Sixty-nine of the women (15 ward and 54 private patients) were admitted to the orthopedic and genito-urinary or gynecological services; 10 came in with threatened or incomplete abortions, apparently without prenatal care, and so without a previous routine chest X-ray examination; five women, all private patients, had symptoms suspicious of tuberculosis; one had been a tuberculosis contact and two had known "healed" tuberculosis; and 39 underwent general anesthesia.

Eight men and 17 women (three ward and 22 private patients) had cancer in some form; one man and seven women (all ward patients except for one woman) had diabetes; six men and six women (three

ward and nine private patients) had some type of chest disease.

It is sincerely to be hoped that the two men who received steroid therapy, and the nine diabetics had chest X-ray examinations before admission since development or lighting up of a tuberculous process is so common in these conditions.

Since the sample was representative of total admissions, conclusions derived from analysis of the former apply probably equally well to the latter. From this analysis, it is readily apparent that the largest group of patients missed in the chest survey was that comprising orthopedic and genito-urinary or gynecological admissions. These are often long-term patients and so represent a large potential hazard to both their fellow patients and the hospital personnel who attend them.

The high percentage of men in the twenty-five to thirty-four year age group who were not X-rayed is distressing for it is among men of this age that tuberculosis in early stages is encountered. The one active and previously unknown case fell in this age group. Any preventive program worthy of the name should not neglect this group.

The incidence of hitherto unknown tuberculosis among 126,190 hospital admission chest X-rays in New York State (1) was 17 per thousand X-rayed, which is more than ten times the incidence obtaining in the Massachusetts chest survey program, the latter figure being only 1.6 per thousand X-rayed. This difference, it was thought, might be more apparent than real. One would expect a higher incidence among ill (hospital patients) than presumably well persons (survey individuals) but it appeared possible that the difference in sex-age distribution in hospital populations compared with the general population might play a part in increasing the tuberculosis incidence among hospital populations, since the latter are made up predominately of young women and old men, both of whom represent the highest incidence of tuberculosis for their sex. For this reason, cases admitted to Hospital C during the year who were diagnosed as tuberculosis were reviewed.

There were 38 cases who received a diagnosis of tuberculosis, 27 men and 11 women. Eleven were previously unknown; ten of these were men, one was a woman. One case was confirmed at autopsy but was never reported to the registry. Age distribution of the cases was as follows: for the males 25-34, two; 35-44, one; 45-54, two; 55-64, two; 65 and over, three. The one woman was over 65.

The incidence of tuberculosis previously unknown was calculated for each age group in the state using age-sex-specific populations and the number of new cases by age and sex reported to the registry during the year. The expected incidence in the hospital population was then calculated using the age-sex percentage distribution of admissions. The results were as follows:

Expected and Actual Incidence of Tuberculosis Among 7,372 Admissions to Hospital C, 7/1/50-7/1/51

Age Group	MALES Expected	MALES Found	FEMALES Expected	FEMALES Found
15-24	0.15	0	0.68	0
25-44	0.45	3	0.73	0
45-64	1.03	4	0.30	0
65	0.72	3	0.20	1
Total Corrected for Age and Sex	2.35	10	1.91	1
Total (Not Corrected)	2.15		2.15	
Total Both Sexes		Expected:	4.26—Found:	11
Total (Not Corrected for Sex)		"	4.30	
Total (Not Corrected for Sex and Age)		"	4.75	

Failure to pick up any new cases in the childbearing years among women suggests that postpartum as well as antepartum films might be taken on obstetrical patients.

Eleven cases of previously unknown tuberculosis in over 7,000 admissions represents 0.15% of the hospital population. This is three times the incidence in the general population (0.05% in 1950-51); 2.62 times the expected incidence in the hospital population corrected for sex and age. Thus, the difference in age-sex distribution counted for very little of the difference in tuberculosis incidence in hospital and general populations.

It is estimated that 1.2 million out of a total United States population of 151 million have tuberculosis in active or inactive form, or approximately 0.8% of the population. In 1950-51 there were approximately 2,220 cases on the state tuberculosis register in Maine. By tripling this figure, one may arrive at an approximation of the total number of tuberculous cases — active, inactive and unknown — in the state, or 0.7% of the general population. This figure is somewhat lower than that for the entire nation because the nonwhite population of the state is less than 1% of the total population. Eleven or 1.7% of 642 cases in the sample had chest X-ray findings characteristic of tuberculosis. Thus, the population of Hospital C contained 2.4 times as many tuberculous individuals of all stages as does the general population of the state. This corresponds roughly with the increased incidence for unknown cases calculated above (3.0).

It is quite clear, then, that general hospital populations are groups with high incidence of tuberculosis. Careful chest survey programs conducted on general hospital admissions, both out- and in-patient cases, would be most profitable as means for case-finding. The cases thus discovered would be in a far more receptive mood toward treatment than presumably well

persons found to have tuberculosis in community surveys because the former have entered the hospital for medical care and are psychologically prepared. Also, the number of active cases found per 1,000 X-rays is ten times that found in community surveys. Contacts are more readily available since many would be among the patient's visitors.

Efforts at control of tuberculosis among general hospital admissions do not end with the chest X-ray examination. Results of this examination should be made known to the attending physician as soon as possible after admittance of the patient so that in cases with active disease, proper steps can be instituted for the care of the patient and the protection of his attendants and contacts without delay.

Data obtained from chest survey programs conducted among hospital admissions can be used to good advantage in the formulation of plans for the control of disease. Information thus obtained should be readily available. It would be ideal if this information were recorded in a uniform manner by all hospitals. A punch card system could be devised for this purpose. Several of the hospitals use the Keysort system in one or more of their departments. A card, set up to include information in following Key, would be of inestimable value (a sample card will be sent on request):

KEY

Age	*Referral*	*Class*	*Reason for referral*
1. Under 15	1. Physician	1. Pediatric	1. Tuberculosis
2. 15-24	2. M.T.A.	2. Newborn	2. Cancer
3. 25-34	3. V.N.A.	3. Medical	3. Prenatal
4. 35-44	4.	4. Obstetrics	4. Cardiac
5. 45-54	5. e	5. GYN	5. Diabetes
6. 55-64	6. t	6. G-U	6. Pre-anesthesia
7. 65-74	7. c	7. Surgery	7. Employee
8. 75-84	8. .	8. Orthopedic	8. Tbc follow-up
9. 85	9.	9. EENT	9. Ca follow-up
	10.	10.	10. Steroid therapy
			11. Cardiac follow-up
			12. Routine P.E.

Film Type

0. Fluoroscopy
1. 4 x 5
2. 70 mm.
3. 14 x 17

A large amount of valuable information could be gathered without resorting to perusal of actual records and with a minimum expenditure of time. The sorting out of information would be far less time-consuming, too.

As tuberculosis becomes of less and less relative importance, and cardiovascular and malignant disease increase in their importance as health hazards, chest survey programs will continue with the same or added importance as factors in preventive medicine. For this reason, it is necessary to continue to increase and improve these programs by every means at hand.

1. Siegal, William, Plunket, Robert E., and Hilleboe, Herman E.: The Modern Hospital, July, 1951. Quoted in Tuberculosis Abstracts, Vol. XXV, No. 1, January, 1952.
2. Massachusetts Health Journal, Vol. 31, No. 2, p. 15, Sept., 1950.

HISTORICAL EXHIBIT

Space is now being arranged for the Historical Exhibit at the Centennial Celebration in June.

To assure a good location for your contribution, please send AT ONCE information relative to type of exhibit and space required, to Dr. Thomas A. Foster, Chairman, Historical Exhibit, c/o Maine Medical Association, 142 High Street, Portland 3, Maine.

PROGRAM IN BRIEF

MAINE MEDICAL ASSOCIATION

CENTENNIAL SESSION

Portland, Maine

June 21 - 24, 1953

HEADQUARTERS — THE EASTLAND HOTEL

PROGRAM COMMITTEE CHAIRMEN

C. Lawrence Holt, M. D., Portland, *General Chairman*

Merrill S. F. Greene, M. D., Lewiston, *Publicity*

Thomas A. Foster, M. D., Portland, *Historical Research and Exhibit*

Carl E. Richards, M. D., Alfred, *Scientific Exhibit*

Philip P. Thompson, Jr., M. D., Portland, *Entertainment*

Stephen A. Cobb, M. D., Sanford, *Technical Exhibit*

Sunday, June 21, 1953

12.00 Noon

Registration (Registration throughout the Session will be at The Eastland Hotel—Hours to be announced)

2.00 P. M.

First Meeting of the House of Delegates — The Eastland Hotel — Colonial Room

Norman H. Nickerson, M. D., President-elect, Presiding

8.00 P. M.

City Hall Auditorium (Open to the public)

Eugene H. Drake, M. D., President, Maine Medical Association, Presiding

Music—John E. Fay, Municipal Organist

Invocation

Introduction of Visitors

Address by Governor Burton M. Cross

Music—Sylvia S. Harwood, Violinist

Historical Sketch of the Maine Medical Association
Thomas A. Foster, M. D.

Music—Portland Men's Singing Club

Monday, June 22, 1953

9.30-11.30 A. M.

Maine Eye and Ear Infirmary

Eye Clinic — Conducted by the Maine Ophthalmological Society

9.30 A. M.

The Eastland Hotel

Second Meeting of the House of Delegates—The Eastland Hotel—Colonial Room

Norman H. Nickerson, M. D., President-elect, Presiding

11.45 A. M.-12.15 P. M.
Visit Technical Exhibits

12.30 P. M.

Luncheon

Luncheon Meeting: Maine Ophthalmological Section — The Eastland Hotel — Colonial Room

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2.00-4.15 P. M.

SCIENTIFIC LECTURE SERIES

The Eastland Hotel Ballroom

Parenteral Nutrition — Problems and Practices in Pediatric Surgery

Kenneth J. Welch, M. D., Attending Surgeon, Children's Medical Center, Boston — Assistant in Surgery, Harvard Medical School

Psychosomatic Aspects of Medicine

Dana W. Atchley, M. D., Professor Clinical Medicine, Columbia University College of Physicians and Surgeons

Lame Backs

Frank R. Ober, M. D., John B. Buckminster Brown, Clinical Professor Orthopedic Surgery, Emeritus, Harvard Medical School

Advances in the Surgical Control of Cancer

Cornelius P. Rhoads, M. D., Professor of Pathology, Cornell University School of Medicine — Director, Memorial Hospital, New York City

4.15 P. M.

Election of President-elect

4.30-5.30 P. M.
Visit Technical Exhibits

6.30 P. M.

Clam Bake (Doctors, wives, and children invited)

Tuesday, June 23, 1953

9.30-11.45 A. M.

SCIENTIFIC CLINIC SERIES

Maine General Hospital

J. Robert Downing, M. D., Kennebunk, Presiding

Mercy Hospital

Ralph C. Stuart, M. D., Guilford, Presiding

11.45 A. M.-12.30 P. M.
Visit Technical Exhibits

12.30 P. M.

Luncheon

2.00-4.15 P. M.

SCIENTIFIC LECTURE SERIES

The Eastland Hotel Ballroom

Obstructing Lesions of the Bronchi

George W. Holmes, M. D., Clinical Professor Roentgenology, Emeritus, Harvard Medical School

The Hazards of Rural Living

John H. Powers, M. D., Associate Surgeon, The Mary Imogene Bassett Hospital — Assistant Clinical Professor of Surgery, Columbia University College of Physicians and Surgeons

Difficulties in Intestinal Absorption

Chester M. Jones, M. D., Clinical Professor of Medicine, Harvard Medical School

The Problems and Responsibilities Facing the Medical Profession Today

Edward F. Stanton, M. D., Cornell Medical College Staff, Department of Obstetrics and Gynecology

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4.15-5.30 P. M.
Visit Technical Exhibits

5.30 P. M.

Cocktail Party—The Eastland Hotel

Hosts: Portland Medical Club

6.30 P. M.

DINNER

The Eastland Hotel Ballroom

Guest Speakers:

Harris P. Mosher, M. D., Walter Augustus Lecompte, Professor Otolaryngology and Professor Laryngology, Emeritus, Harvard Medical School

Subject: My Creed

Fred J. Pritham, M. D., Greenville Junction, Maine

Subject: Memoirs of a Country Doctor

Group Singing

Wednesday, June 24, 1953

9.30-11.45 A. M.

SCIENTIFIC CLINIC SERIES

MAINE GENERAL HOSPITAL

J. Robert Downing, M. D., Kennebunk, Presiding

MERCY HOSPITAL

Ralph C. Stuart, M. D., Guilford, Presiding

11.45 A. M.-12.30 P. M.

Visit Technical Exhibits

12.30 P. M.

LUNCHEON

LUNCHEON MEETING—The Eastland Hotel—Colonial Room

Indoctrination Meeting for New Members

Speaker: **Ernest L. Howard, M. D.,** Assistant Secretary, American Medical Association

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2.00-4.15 P. M.

SCIENTIFIC LECTURE SERIES

The Eastland Hotel Ballroom

THE PRACTICE OF MEDICINE IN THE NAVAL SERVICE

Admiral Arthur H. Dearing, M. C., U. S. N., Inspector, Naval Medical Activities, Western Sea Frontier, San Francisco, California

PROGRESS IN PEDIATRICS

Edwin T. Wyman, M. D., Physician, Children's Hospital and Infants' Hospital, Boston

RESPIRATORY OBSTRUCTION IN INFANCY

James L. Wilson, M. D., Professor of Pediatrics and Communicable Diseases, University of Michigan School of Medicine

DETERMINING THE FACTORS IN THE COURSE OF TUBERCULOSIS

Alton S. Pope, M. D., Deputy Commissioner, Massachusetts Department of Public Health, Division of Tuberculosis and Sanatoria (Sponsored by the Maine Tuberculosis Association)

6.30 P. M.

ANNUAL BANQUET

The Eastland Hotel Ballroom

Presentation of medals and awards

President's Address—**Eugene H. Drake, M. D.**

Guest Speakers:

Ernest L. Howard, M. D., Assistant Secretary, American Medical Association

Subject: A. M. A. SERVES THE PROFESSION

Mrs. Leo J. Schaeffer, President-elect, Woman's Auxiliary to the American Medical Association

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SECTION MEETING

Monday, June 22, 1953

2.00 P. M.

MAINE OPHTHALMOLOGICAL SECTION—The Eastland Hotel—Colonial Room

Speaker: **Paul A. Chandler, M. D.,** Boston, Massachusetts

Subject: NEWER CONCEPTS IN GLAUCOMA

PROGRAM IN BRIEF

Woman's Auxiliary

to the

Maine Medical Association

Fifth Annual Convention, June 21-24, 1953

Portland, Maine

Headquarters—The Eastland Hotel

Sunday, June 21, 1953

12.00 Noon

REGISTRATION (Registration throughout the Session will be at The Eastland Hotel—Hours to be announced)

8.00 P. M.

CITY HALL AUDITORIUM (See Maine Medical Association Program)

Monday, June 22, 1953

10.00 A. M.

"INTOWN" TOUR—including such places as the Art Museum, Victorian Mansion and Longfellow Home

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12.30 P. M.

EXECUTIVE BOARD LUNCHEON

3.00 P. M.

FASHION SHOW FOLLOWED BY TEA "to get acquainted with the Executive Board." (All wives of physicians are invited to attend)

6.30 P. M.

CLAM BAKE (Doctors, wives, and children invited)

Tuesday, June 23, 1953

A. M.

BOAT TRIP (Details to be announced)

12.30 P. M.

ANNUAL MEETING LUNCHEON in honor of Past Presidents of the Woman's Auxiliary to the Maine Medical Association and Out-of-State Guests. Installation of Officers. (All wives of physicians are invited to attend)

Speaker: **Mrs. Leo J. Schaeffer,** President-elect of the Woman's Auxiliary to the American Medical Association

5.30 P. M.
Cocktail Party—The Eastland Hotel
Hosts: Portland Medical Club

6.30 P. M.
Dinner Meeting—Maine Medical Association

Wednesday, June 24, 1953

A. M.
Garden Tour

12.30 P. M.
Out-of-Town Luncheon—Homewood Inn, Yarmouth

4.00-5.00 P. M.
Post-Convention Executive Board Meeting With New Officers

6.30 P. M.
Annual Banquet—Maine Medical Association

M. M. A. Officers, Executive Secretary and Secretary-Treasurer

Back Row, left to right: Currier C. Weymouth, M. D., Farmington, Councilor, Second District; Martyn A. Vickers, M. D., Bangor, Delegate to A. M. A.; William F. Mahaney, M. D., Saco, Councilor, First District; Armand Albert, M. D., Van Buren, Councilor, Sixth District; Karl V. Larson, M. D., East Machias, Councilor, Fifth District; Raymond L. Torrey, M. D., Searsport, Councilor, Fourth District.

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The Journal of the Maine Medical Association

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EDITORIAL SECTION

Gamma Globulin Distribution

Summer time in Maine means happy days and care-free vacations at seashore and lake. In recent years families, especially families with young children, have found their plans tinged with some anxiety about infantile paralysis. As a matter of record, Maine over a long stretch of years has never suffered from a widespread epidemic of infantile paralysis. There is no reason to expect that Maine will have an epidemic this year. There are reasons, however, to expect that many mothers and fathers will want to know about the policy of using Gamma Globulin.

In this issue of the JOURNAL a report prepared by the State Director of Health in conjunction with our Committee on Maternal and Child Welfare, is published for information of all concerned. The report endeavors to set forth regulations for distribution and allocation of Gamma Globulin. A great deal of thought has been given to this problem by the American Medical Association's Committee on Blood Banks, the Committee on Immunization and Therapeutic Procedures for Acute Infectious Diseases of the American Academy of Pediatrics and the National Research Council.

The National Red Cross and the National Foundation for Infantile Paralysis have furnished the blood and the funds to process the blood but have declined to be responsible for distribution and allocation.

Effective use of the material requires united and loyal support of all the practitioners in the field. It is hoped that all our members will become familiar with the plan and will give it their unqualified co-operation.

Gamma Globulin Distribution in Maine
(Effective upon publication)

Since Hammon's reports in the *Journal of the American Medical Association* in October, 1952, and April, 1953, on gamma globulin in the prophylaxis of polio, it has been obvious that the demand for gamma globulin would far exceed the supply, particularly if this becomes an epidemic year and unless the existing material could be used most advantageously. The American Red Cross and the National Foundation for Infantile Paralysis have agreed to increase the amount of blood available for processing, to underwrite investments necessary to increase processing facilities, and to purchase all of the available supply so it could be placed at the disposal of a central national allocating agency. The Office of Defense Mobilization, because of its activities in blood procurement, was chosen at this central agency, and it in turn developed a broadly representative medical advisory group to assist in the preparation of the national distribution plan.

Five hundred c.c. of blood will yield about 7 c.c. of gamma globulin, and the average prophylactic dose in polio is about 10 c.c. With present manufacturing facilities, only about 10,000,000 c.c. can be expected for use this year for all purposes. Obviously, this is inadequate and must be husbanded. The material designated for use in polio will be titered for antibody concentration and will be distributed in 10 c.c. ampules to physicians on the basis of the plan outlined below. Ordinary gamma globulin may or may not be effective as one is fortunate or unfortunate in the chance selection of a batch with or without a significant titer. Distribution will be directly to physicians from depots in their vicinity, on their requisition. No charge will be made for gamma globulin, but the physician will be required to provide the information necessary to justify the issuance of the material on the basis of established criteria. No material will be available through commercial channels.

Essentially, the national plan provides for allocation to the states of two separate supplies of gamma globulin, as follows:

(1) For measles and infectious hepatitis prophylaxis an amount equal to 1.5 c.c. times the average number of cases of measles reported for the years 1947-1951. This will be prepared in 2 c.c. vials.

(2) For polio prophylaxis the allocation is an amount equal to 60 c.c. times the average number of cases reported in the same period. This material, as mentioned above, will be titered, and will be in 10 c.c. vials.

In view of the fact that allotment is on the basis of reported cases, it is necessary to have some relatively uniform basis for reporting, and physicians are urged to use the criteria adopted by the National Conference on Recommended Practices for the Control of Poliomyelitis, which are as follows:

"Diagnostic criteria of paralytic or non-paralytic poliomyelitis should generally include three or more of the following:

1) history compatible with poliomyelitis,
2) fever,
3) stiff neck and/or stiff back,
4) 10 to 500 cells per c.c. of spinal fluid taken during the acute or early convalescent period of the disease,
5) spinal fluid protein elevated above normal limits,
6) demonstrable muscle weakness or paralysis.

"Cases which present only (1) history compatible with poliomyelitis, and (2) fever, should be classified as presumptive (abortive) poliomyelitis.

"Paralytic cases are defined as those in which definite weakness or paralysis has been detected and persisted during at least two examinations made at intervals of at least several hours. Results of an examination for paralysis of muscles of the extremities or trunk may be very reliable during the period of muscle tenderness or 'spasm.'"

In each state the state health department is the receiving agent for the state allocation of gamma globulin, and the health department has the responsibility of developing plans, criteria and mechanics for local distribution.

The Maine Medical Association designated its Maternal and Child Health Committee to meet as consultants with members of the State Bureau of Health to develop a plan for gamma globulin distribution. The following plan is the result of this conference, and it was further agreed that subsequent conferences would be held if problems arose or if the disease situation warrants.

Doctor Hammon's reports, the recommendations of the American Academy of Pediatrics, reports from the National Research Council, and recommendations of the American Public Health Association and the State and Territorial Health Officers Association form the basis for this plan.

A. *Allotment #1.* (For use in measles and infectious hepatitis prophylaxis.)

The Committee agreed that this allocation would be distributed on the basis of the following criteria and in the following situations:

Measles

1. Gamma globulin may be issued for the prevention of measles in infants between the ages of six and eighteen months, and under the age of six months if the mother has not had measles. Dosage shall be that recommended by the American Academy of Pediatrics, which is 1/10 c.c. per pound of body weight.
2. It may be issued for modification of measles in children between the ages of eighteen months and three years. Dosage: .02 c.c. per pound of body weight prior to the sixth day or .05 c.c. after the sixth day.
3. It may be issued for any child of any age who is suffering from a chronic or debilitating disease which makes it undesirable for the child to run the risk of having measles. Gamma globulin in this situation may be issued for either prevention or modification, according to the desire of the attending physician. Dosages will be the same as those indicated above for either prevention or modification.
4. Gamma globulin may be issued in certain special cases and special circumstances where it may be desirable to prevent the further spread of the infection in groups such as summer camps and institutions.

   (It is understood that gamma globulin will be issued for the above purposes only on the basis of some significant contact to the disease experienced by the individual who is to receive the protective dose.)

Rubella (German Measles)

1. Gamma globulin may be issued for use in the pregnant woman during the first four months of pregnancy to prevent rubella.* In this situation, however, the material can be issued only if the attending physician has satisfied himself that the woman has not had German measles. The value of gamma globulin in this situation has not been well established, but the American Academy of Pediatrics recommends that the fetus of a pregnant woman during the first trimester of pregnancy be given this protection if the woman has a definite history of exposure to German measles and a prior history of rubella infection in the woman cannot be elicited. Recommended dosage is 1/10 c.c. per pound of body weight.

   * Most recent recommendation of APHA.

Infectious Hepatitis

1. Gamma globulin may be issued for the protection of all household contacts of cases of infectious hepatitis. Dosage: .01 c.c. per pound of body weight with a maximum dosage of 2 c.c. for any one individual.

B. *Allotment #2.* (For use in polio prophylaxis.)

Dosage in all cases will be 0.14 c.c. per pound of body weight with a maximum dosage of 20 c.c. for any one individual.

Injection may be made at more than one site, but the entire dose should be given at once.

All injections should be given intramuscularly.

No unfavorable reactions are to be expected from the material, although some possibility of reaction exists if multiple doses are given.

Protection can be expected for about six weeks after injection.

To be effective, gamma globulin must be given prior to infection, or very early in the incubation period.

No material will be made available for treatment of diagnosed cases of polio. Its use will be restricted to prophylactic use among contacts of cases, particularly household contacts, for in this latter group attack rates may be twenty times as great as in the population at large. Therefore, it is in this group where the likelihood of preventing cases with the limited supply of material is the greatest. In all instances, the contact to be protected must be of the family or household type or a non-household contact which has been of sufficient duration or intimacy to have provided a significant possibility of infection during the four days prior to onset or the seven days after onset of the primary case.

The contacts must have been with either a paralytic case, or a non-paralytic case with positive spinal fluid changes.

Under these conditions, gamma globulin will be provided for contacts as follows:

1. Material will be provided for the protection of pregnant women of any age who are contacts as above.
2. Material will be similarly provided to household contacts up to age thirty.
3. Material will be provided for non-household contacts only on the basis of degree of contact as above and within the age limits indicated above.
4. Material will be provided for the protection of nurses and other attendants actually caring for polio patients during the period when patients can be presumed to be infectious.
5. A certain amount of material will be kept in reserve for use in camps or similar institutional groups where cases may have occurred and where contact may have been significant.
6. Special community situations may be given separate consideration.

Continued on page 140

Rehabilitation

In Atlantic City at the Annual Dinner of the American College of Physicians, held on April 19, V. J. Skutt, President of Mutual of Omaha, presented Dr. Howard A. Rusk the 1952 Mutual of Omaha Dr. C. C. Criss Award for his outstanding accomplishments in the field of rehabilitation of the physically handicapped.

In presenting the Criss Award to Dr. Rusk, Mr. Skutt declared, "By his great work and that of others which he has inspired, Dr. Rusk has brought hope, courage and ambition to the deserted cripples and lonesome individuals. He has reflected great credit on this noble profession, strengthened his country by strengthening his people and served his God by helping the unfortunate."

The medical profession as individuals and as national organizations recognize the great progress made by Dr. Rusk in establishing clinics to rehabilitate the disabled. The people of Maine have an opportunity to learn about this work right here in Portland on the 4th and 5th of June. On those two days The National Rehabilitation Association will hold in Portland a Regional Conference. People interested in this humanitarian aspect of medical practice are invited to attend the meeting. Featured speakers of the Conference will be Dr. Dean Clark, Administrator of the Massachusetts General Hospital and Harold Russell, amputee Academy Award winner for his role in the movie, "The Best Years of Our Lives." Many well qualified speakers will be on hand to take part in the Program. Maine will be represented officially by Governor Cross, Commissioner of Education, Herbert G. Espy and Commissioner of Health and Welfare, David H. Stevens. "Action Not Words in Rehabilitation" is the theme of all Conference Sessions.

We would feel remiss in our duty if we did not use the pages of the JOURNAL to advise our members of this exceptional opportunity to attend and participate in the Conference. Maine has rehabilitation problems of its own. This meeting planned for June in Portland seems to offer an unusual chance to hear from our national leaders in the field.

Details of the Conference can be obtained by writing to the Rehabilitation Conference Committee, Room 308, 10 Congress Square, Portland 3, Maine.

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COUNTY SOCIETY NOTES

Hancock

A meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, on Wednesday, April 8, 1953. There were ten members present.

Dr. Herbert T. Wilbur, Jr., of Southwest Harbor, President of the Society, presided.

Dr. Richard C. Wadsworth of Bangor, guest speaker, gave a very interesting talk on Infectious Mononucleosis, which was well illustrated with lantern slides. He stressed the frequency and importance of liver involvement in this disease. His talk was followed by a period of discussion.

Arthur M. Joost, Jr., M. D.,
Secretary.

Kennebec

A regular meeting of the Kennebec County Medical Society was held at the Elmwood Hotel in Waterville on Thursday, March 19, 1953. Dinner at 7.00 P. M. was served to thirty-five members and guests.

Dr. Kurt A. Sommerfeld of Gardiner, President of the Society, presided at the business meeting and called attention to the interim meeting of the Maine Medical Association House of Delegates, to be held in Bangor, April 19. Mr. W. Mayo Payson of Portland, Executive Secretary of the State Society, made a few appropriate remarks relative to the interim meeting.

Dr. John W. Strieder of Boston, Massachusetts, guest speaker, was introduced by Dr. Kenneth W. Sewall of Waterville. Dr. Strieder's subject was Some Problems of Thoracic Disease of Current and Practical Interest, which he said could also be titled A Progress Report of Thoracic Surgery. He discussed hemoptysis and the management of such cases; the conservative use of narcotics because of danger of asphyxiation; X-ray of the chest, fluoroscopy and bronchography; carcinoma of the lung; metastases; congenital hearts and surgery of the mitral valve. He stated that chemotherapy has lowered the fatal institutional results from 20% to 10%, and that streptomycin resistant strains are on the increase. His talk, which was illustrated, was clear and informative.

A. H. Morrell, M. D.,
Secretary.

Lincoln - Sagadahoc

The annual meeting of the Lincoln-Sagadahoc County Medical Society was held at The Ledges in Wiscasset on Tuesday, March 24, 1953. There were thirteen members and four guests present.

Dr. John F. Dougherty of Bath, President of the Society, called the business meeting to order at 8.00 P. M. The following officers were elected for the coming year:

President, Dr. Samuel L. Belknap, Damariscotta.

Vice President, Dr. Marion W. Westermeyer, Bath.

Secretary-Treasurer, Dr. John P. Goodrich, Boothbay Harbor.

Board of Censors: Dr. Harry F. Morin, Bath; Dr. Stanley R. Lenfest, Waldoboro; Dr. Warren E. Kershner, Bath.

Dr. Dougherty turned the meeting over to the President-elect, Dr. Samuel Belknap, who introduced Dr. Eugene H. Drake of Portland, President of the State Society. Dr. Drake spoke relative to State Association affairs, following which Mr. W. Mayo Payson of Portland, Executive Secretary of the State Society, spoke briefly of matters of interest to the medical profession at the present Legislative session.

Mr. Richard F. Nelson and Mr. Walter Black of the Associated Hospital Service of Maine, discussed respectively Blue Shield and Blue Cross problems. Their talks gave us a much better understanding of medical care insurance.

M. W. Westermeyer, M. D.,
Retiring Secretary-Treasurer.

Childhood constipation deserves treatment which gently restores normal peristaltic movements; drastic elimination cannot permanently correct the condition and may be harmful to the child.

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SEARLE Research in the Service of Medicine

Washington

A regular meeting of the Washington County Medical Society was held in Eastport on Friday, April 17, 1953, with twenty-four members and guests present. An excellent dinner served by the Ladies' Society of the Central Street Congregational Church, was followed by a short business meeting at which Dr. James C. Bates of Eastport, President of the Society, presided. He spoke in regard to Dr. Charles W. Capron of Eastport, who will leave shortly to take a course in Radiology. He said that he had enjoyed working with him and that he will be greatly missed.

Dr. Donald Coulton of Bangor, guest speaker, was introduced by Dr. Karl V. Larson of East Machias. Dr. Coulton's subject was Elective Induction in Obstetrics. He spoke on the use of intravenous pitocin for inducing labor and stated that if conditions are right practically 100% of cases can be induced, and presented statistical figures on his last 50 cases. He spoke also on the use of Trilene as an anesthetic in obstetrics.

His talk provoked a very active discussion by most of the doctors present, with a few of the older doctors voicing some opposition to methods which are supposed to be an improvement over Mother Nature.

It was voted to hold the next meeting in Calais in June and that Dr. Samuel Webber and Dr. Hazen Mitchell, both of Calais, be in charge of arrangements.

KARL V. LARSON, M. D.,
Secretary.

Gamma Globulin Distribution in Maine—Continued from page 137

DISTRIBUTION SYSTEM

Gamma globulin depots will be established at District Health Offices as follows:

District III and Central Depot:	State Bureau of Health State House, Augusta, Maine A. H. Morrell, M. D. Telephone: Augusta 3-4511, Ext. 317
District I:	178 Middle Street, Portland, Maine David Davidson, M. D., District Health Officer Telephone: Portland 3-5661
District II:	70 Court Street, Auburn, Maine Helene Reeves, M. D., District Health Officer Telephone: Lewiston 2-7261
District IV:	47 South Street, Dover-Foxcroft, Maine Charles N. Stanhope, M. D., District Health Officer Telephone: Dover-Foxcroft 2-111
District V:	Chandler Building, Machias, Maine John Kazutow, M. D., District Health Officer Telephone: Machias 251
District VI:	47 Sweden Street, Caribou, Maine Charles F. Thomas, District Health Officer Telephone: Caribou 2-1811

In addition, the cities served by full-time medical health officers will have supplies to be issued by that local health officer for use in residents in his jurisdiction. These cities are:

Portland—Edward W. Colby, M. D., City Health Officer.
Lewiston—Robert Wiseman, M. D., City Health Officer.
Waterville—Arthur Daviau, M. D., City Health Officer.
Bangor—Harry D. McNeil, M. D., City Health Officer.

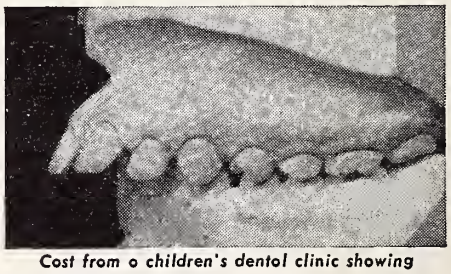
It is expected that in each case the health officer will be able to make arrangements for issuing material outside normal office hours.

These depots will be provided with necessary requisition and accounting forms.

The physician will be expected to report his cases through the usual channels, and to receive gamma globulin, will be asked to provide the depot with the name, address, age, sex, and diagnosis on the patient; and the names, ages and approximate weights of contacts. Dosages as given above will be used to calculate amounts to be issued to the nearest 10 c.c. vial. For non-household contacts the details of the type and extent of contact will also be required. This type of information when analyzed on a nation-wide basis will provide a useful means for further evaluating the place and effectiveness of gamma globulin.

It is obvious that gamma globulin is not the final answer to the control of polio, but it does appear that at this time it may be a means of limited control under certain specific conditions. It is no substitute for the admonitions during the summer to avoid crowds, over-fatigue, areas of high incidence, and to observe good hygienic practices, and seek early medical care for any illness.

RECENT DENTAL LITERATURE ADVOCATES BAN ON THUMB SUCKING AND NAIL BITING



Cast from a children's dental clinic showing malocclusion due to thumb sucking

Authorities show developmental defects in dental occlusion when vicious habits are not treated. Children and adults alike are subject to these injurious mouth habits.

Nagging and rebuke are psychologically unsound and serve only to focus attention on the habit. For efficient treatment on a reflex basis, prescribe

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WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION
Thirtieth Annual Meeting
New York, N. Y., June 1-5, 1953
Hotel Statler

A cordial invitation is extended to all members of the Woman's Auxiliary to the American Medical Association, their guests, and the guests of physicians attending the convention of the American Medical Association, to participate in all social functions and attend the general meetings of the Auxiliary.

Headquarters will be at the Hotel Statler. Tickets will be available at the registration desk in the Grand Ballroom Foyer only. Please register early and obtain your badge and program.

Mrs. William J. Lavelle, *Chairman*
Mrs. Adolph H. Emerson, *Co-Chairman*
Committee on Arrangements

A "Brief" of the Program

The above tells you where and when the 1953 meeting of the Woman's Auxiliary to the American Medical Association will be held. Space does not permit printing the entire program, but we do want to give you a "brief" of their Preconvention Schedule. In doing this we have two things in mind — first, so that those planning to attend will have a better idea of the meeting schedule, and second, so that those not now planning to attend will have a chance to take the woman's prerogative of "changing their minds."

The registration booth will open at 12.00 noon on Sunday, May 31st, and from then until 4.00 o'clock members of the Hospitality Committee will be present to welcome members and guests of the Woman's Auxiliary. Committee meetings will be held from 1.00 to 3.30 P. M.

On Monday, June 1, Round Table Discussions — members invited — will be conducted by various committee chairmen from 9.00 A. M. to 3.30 P. M. A tea honoring Mrs. Ralph B. Eusden, President, and Mrs. Leo J. Schaefer, President-elect, will be held from 3.30 to 5.30 P. M. All wives of physicians are cordially invited to attend. Hosts for this event will be The Medical Society of the State of New York and its Auxiliary.

The formal opening of the meeting will take place at 9.00 A. M., Tuesday, June 2, with the President, Mrs. Eusden, presiding. The program will include an Invocation by His Eminence Francis Cardinal Spellman, Archbishop of New York; Greetings by Peter Murray, M. D., President-elect, New York County Medical Society, and J. Stanley Kenney, M. D., General Convention Chairman, American Medical Association; Address of Welcome by Mrs. Harry I. Norton, Past President, Woman's Auxiliary to the Medical Society of the State of New York; Address of the President; Reports of Officers, and Presentation of National Directors. A luncheon will honor Past Presidents of the Woman's Auxiliary to the American Medical Association. The guest speaker will be Dr. Kenneth McFarland, Educational Director, American Trucking Association, Inc., whose subject will be "Fathoming the Fifties." Members of the Auxiliary and guests are invited to attend the Opening Meeting of the American Medical Association at the Hotel Commodore at 7.00 P. M., and the Reception and Ball in honor of the President of A. M. A. at 9.00 o'clock.

On Wednesday, June 3, a General Session will be held at 9.00 A. M., followed by the Annual Luncheon in honor of the President and President-elect, with Dr. Louis Bauer, President of A. M. A., as guest speaker.

Thursday's program consists of a General Session at 9.00 A. M., Meeting of the Board of Directors at 2.00 P. M., and the Annual Dinner of the Auxiliary for members, husbands and guests, at the Hotel Waldorf Astoria at 6.30 P. M., preceded by a Social Hour at 6.00 o'clock.

The Conference of National Officers, Directors and Committee Chairmen with State Presidents and Presidents-elect, will take place on Friday, at 9.00 A. M., with Mrs. Leo J. Schaefer, President, presiding.

This is the first time in many years that the Annual Meeting of the American Medical Association has been held in New York — we hope that Maine will be well represented at meetings of the Association and its Auxiliary. Consequently, we hope that you will plan to attend and that you will take your husband with you.

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Made with flour, sugar sweet unsalted butter, milk, eggs, malt, shortening, leavening and spices.

LOW IN SODIUM CONTENT

This is a nutritious, highly palatable toast, prepared with selected ingredients and baked by special processes to provide a wholsome substitute for bread for low-sodium diets.

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This new NABISCO LOW-SODIUM TOAST is in the regular grocery store price range rather than that of special dietary foods. Tell your patients to ask for it at any neighborhood food store.

HIGHLY PALATABLE!

NABISCO LOW-SODIUM TOAST is very tasty! In fact, many of your patients may find they like its flavor better than ordinary toast.

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2.0—mgs. per biscuit

Caloric Content
440.—per 100 grams
33.—per biscuit

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The Journal of the Maine Medical Association

Volume Forty-Four | Portland, Maine, June, 1953 | No. 6

MAINE MEDICAL ASSOCIATION MILESTONES

Preliminary Meeting — 1853

On April 28, 1853, twenty-seven members of the medical profession of Maine met at the Tontine Hotel in Brunswick to "secure a permanent organization of its members throughout the State." Dr. James McKeen of Topsham was chosen Chairman, and Dr. John D. Lincoln, Secretary. Dr. Lincoln was chosen to serve as President until the annual meeting.

First Annual Meeting — 1853

The First Annual Meeting of the Association was held at Winthrop Hall in Augusta, June 1, 1853. At this meeting the following gentlemen were chosen as officers for the current year:

President, Dr. James McKeen, Topsham.

Vice-Presidents, Dr. John T. Gilman, Portland; Dr. N. P. Monroe, Belfast.

Treasurer, Dr. H. H. Hill, Augusta.

Recording Secretary, Dr. N. R. Boutelle, Waterville.

Corresponding Secretary, Dr. T. G. Stockbridge, Bath.

Semi-Centenary Celebration — 1903

The Semi-Centenary Celebration was held in Portland, June 3, 4 and 5, 1903. The business meetings were held in Kotzschmar Hall. Dr. Hiram Hunt of Greenville was President.

"In accordance with the suggestion of the President for 1902, Dr. Frederic H. Gerrish, entertainment was made a prominent feature of the Semi-Centenary celebration. Varying the usual order, the entire charge was assumed by the business committee, which by adding to its numbers was as follows: Drs. Wm. H. Bradford, R. D. Small, F. H. Gerrish, H. F. Twitchell and W. D. Williamson."

Papers concerning the history of the Association were presented by Dr. Hiram Hunt and Dr. Charles O. Hunt. A Sketch of the History of Medicine in Maine Prior to 1853 was presented by Dr. J. L. M. Willis, and a paper on the History of Medicine in Maine Outside of the Association since 1853 by Dr. Willis B. Moulton.

First Meeting of the House of Delegates—1909

"The House of Delegates, according to the provisions of the new Constitution, held its first meeting on Tuesday, June 15th, at 2 P. M., at the Lafayette Hotel (Portland)." The meeting was called to order by the President, Dr. Alfred D. Sawyer. There were twenty-two delegates, the President, Secretary and Members of the Council, present.

Maine Medical Journal

The first issue of the MAINE MEDICAL JOURNAL was published in December, 1910, with Dr. Frank Y. Gilbert of Portland, as Managing Editor.

At that time there was an Editor from each County Society and a Board of Managers consisting of the following: Drs. Addison S. Thayer, J. F. Thompson, E. E. Holt, W. L. Cousins, Alfred King, E. G. Abbott, all of Portland; and Drs. E. H. Bennett, Lubec; A. D. Sawyer, Ft. Fairfield; C. E. Williams, Auburn; G. M. Woodcock, Bangor; and Hiram Hunt, Greenville.

MAINE'S GENERAL HOSPITALS

The Maine Medical Association in its early days, 1867, petitioned the Maine Legislature for a charter to incorporate a General Hospital. This charter was granted and in 1874 the hospital received its first patients.

Some years later our medical brothers in Eastern Maine gathered at Bangor and petitioned for a charter to establish a hospital in the "Queen City." This was accomplished in 1892.

In Lewiston, Central Maine, a group succeeded in establishing a hospital in 1888.

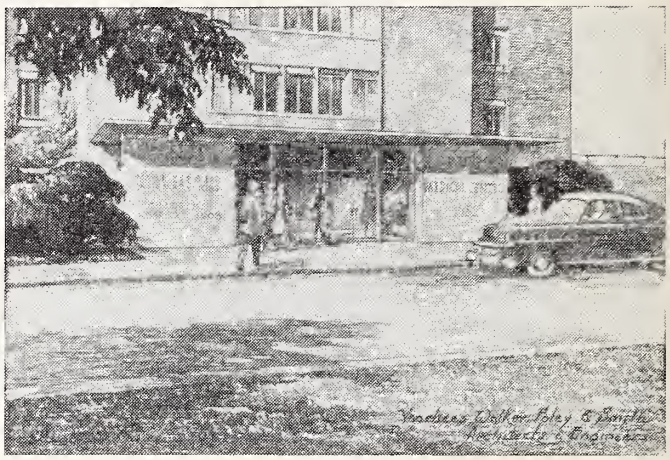
The JOURNAL presents in this issue the stories which have been written about these accomplishments.

Maine General Hospital

The need for a general hospital to serve the needs of the people of the State of Maine and to be located in Portland was set forth in 1867 by Dr. S. H. Tewksbury in his inaugural address as president of the Maine Medical Association. Steps taken immediately following led to incorporation of the Maine General Hospital by an act of the Legislature in 1868. The cornerstone was laid in 1871. The first patient was admitted in November of 1874. It is interesting to note that funds for the first building were over subscribed by 25 per cent. As a forerunner to the current Hill-Burton Hospital Construction law, the State of Maine contributed a total of $20,000 to the cost of construction of the original building.

One of the major milestones was reached in 1885 when a training school for nurses, one of the first ten in the country, was established. It is significant that the school opened on February 1st and that the first class graduated within the year. The last class will graduate from the Maine General Hospital School of Nursing in September of this current year of 1953. From that time forward nursing education at the hospital will be carried under the name of the Maine Medical Center School of Nursing which accepted its first students in September of 1951. This new school, when operating at full capacity, will have an enrollment of 300 students.

Old Surgical Ampitheatre,
Maine General Hospital — 1885



Throughout the years until their closing, close relationships existed between the Maine Medical School and Bowdoin College. It was the laboratory at Bowdoin College which only two years after Roentgen's discovery made and presented for use at the hospital the first X-ray tube used in the treatment of patients in Maine. This tube is today on display in the X-ray Department of the hospital.

As long ago as 1924, formal recommendations were made to the governing boards of Maine General Hospital, Children's Hospital and the Maine Eye and Ear Infirmary to the effect that both physicians and the public would be better served by the consolidation of their respective facilities into one operating unit. As the first step in the advancement of this program, Children's Hospital affiliated with the Maine General Hospital in 1947. In 1951, the three hospitals voted to enter into an agreement whereby the Maine Medical Center would combine the resources of all of the institutions. Land has been acquired for this purpose adjoining the Maine General Hospital, and demolition of property thereon has begun. Ground breaking for the Maine Medical Center is expected to take place in the fall of the year.

The medical staff of Maine General Hospital has been instrumental in the bringing of many specialized services to the area which it serves. Most recent to these are heart catheterization and use of radio active substances. At the same time the staff has vigorously pursued a program of graduate medical education for the benefit of its 24 house officers, 195 staff members and 291 medical alumni of which 130 carried on the practice of medicine in the State of Maine.

Maine General Hospital Milestones

1867 Need for such an institution suggested by Dr. S. H. Tewksbury, President of Maine Medical Association, in his inaugural address.

1868 Maine General Hospital incorporated by act of Legislature.

1869 Charter accepted by corporation.

1871 Northeastern Pavilion cornerstone laid. A plan for a 200-bed hospital was adopted. John B. Brown elected first president. Dr. Charles O. Hunt named first superintendent.

1874 October 22: Eastern Pavilion, the first building dedicated.
November 9: First patient admitted.

1876 February: Central Building completed and opened.

1885 February 1: Training school for nurses was established. The first class graduated from the school of nursing. Free care to all was stated to be the ultimate objective.

1892 August: Western Pavilion opened.
April: Electric plant installed.

1900 A close relationship with the Maine Medical School and Bowdoin College Medical School was established.

1902 Alida Leese Nurses' Home opened.

1903 The capacity was 160 beds as a result of renovation of the children's section.

1929 June: Ground broken for new wing.
December 11: Cornerstone laid with Judge Clarence Hale, President of the Maine General Hospital Corporation, as the speaker.

1931 February 6: Dedication of new wing with Clarence Cook Little as speaker. Prominent state and city officials and large delegation of Maine and New England medical fraternity invited as guests.
February 7 and 8: Public inspection of new wing.

1939 Vaughan Hall purchased.

1947 Affiliation with Children's Hospital was completed but the board remained autonomous.

1949 A proposal for amalgamation of the Maine General Hospital, the Maine Eye and Ear Infirmary and the Children's Hospital was made in a survey report.

1952 Public campaign launched to raise $3,000,000 to build new Maine Medical Center.

Central Maine General Hospital

The Central Maine General Hospital was organized at Lewiston, Maine, on the 26th day of December in 1888, in accordance with and under the revised statutes of the State of Maine, Chapter 45, sections 1, 2, 3, and 4. The names of the original incorporators were as follows:

Edward F. Hill, M. D., B. F. Wood, A. R. Savage, D. J. Callahan, F. Guttmann, R. C. Reynolds, O. B. Cheney, E. H. Gerrish, C. W. Hill, Raymond Toothaker.

The first president of the corporation was J. L. H. Cobb. The first president was elected at a meeting of the corporators held December 29, 1888. The first directors were elected at a meeting of the corporators held January 4, 1889, as follows: R. C. Reynolds, C. W. Hill, B. F. Wood for three years. D. J. Callahan, Ara Cushman and L. G. Jordan for two years. George W. Wagg, John F. Cobb and John Garner for one year. The first resident physician was Dr. George P. Emmons.

The first annual report was published in 1893, covering the year from July 1, 1891, to July 1, 1892.

The smallpox hospital opened in 1880 was an early but aborted attempt at a general hospital, for it was intended by its builder to be a private general hospital, as was the old Kilbourne house of Auburn, intended by its owners, to be eventually turned into a hospital.

So it was that the dream of a few public-spirited citizens, physicians and surgeons was about to come

true. The birth of the Central Maine General Hospital had long been foreseen as a coming necessity, but the idea of such an institution did not materialize until the little group above mentioned took the initiative and made application for a warrant. To the late Dr. E. H. Hill, more than to any other one man, perhaps, the hospital owes its existence. His untiring efforts for its organization, his loyal and unselfish devotion during its early years are a part of the history of this institution.

At the first meeting of the legislature following the organization of the hospital (December 26, 1888), a large delegation of leading citizens and physicians made application for $20,000 towards building a new general hospital in Lewiston. Their application was turned down on the ground that the French Hospital which had recently been completed was all that we should ever need; indeed, at present, it was a luxury. No such waste of the State funds could be thought of.

Two years later (1891) another appeal was made, this time with the result that the legislature granted an appropriation of $10,000, five of which was to be paid in 1891, after we had expended $10,000, and the other five thousand in 1892 when we had expended in all, $20,000. From the date of this vote, the establishment of our hospital was assured.

Previous to our application to the legislature, subscription papers were drawn up and in three days $10,000 was raised by the citizens. With this amount, the subsequent subscriptions and the $10,000 appropriated by the State, the little hospital of 26 beds was established.

At this same time, the school for nurses was organized, with Martha P. Parker, R. N., a graduate of Massachusetts General Hospital as matron and superintendent of nurses. Thirty-five young women made application for training, and of this number, six were admitted as probationers and five finally were accepted. The length of the course was two years and pupils were admitted anytime when vacancies occurred or accommodations permitted. The requirements for admission were a good common school education, and the presentation of certificates of good moral character and of good health. They were also expected to serve in the homes of the sick wherever they might be sent, but only after the first six months of their training.

The first patient admitted to the Central Maine General Hospital was Mrs. Georgia E. Cash of Welchville, Maine. She was admitted July 2, 1891, and discharged August 15, 1891. Accommodations were private room and the rates—no charge. She was a surgical case. The ward rates at this time were $1.00 per day; for private rooms $2.00 per day. During the first year four free beds were donated.

From July 1, 1891, to July 1, 1892, 135 patients were admitted to the hospital. There were 112 paying patients, 5 part paying and 18 non-paying. 91 surgical patients, 36 medical and 8 eye, ear, nose and throat.

Days furnished to paying patients, 3275; to non-paying patients, 577. The annual expenses at this time were $9,433.76.

On August 3, 1891, a clinic was established for the treatment of the poor, for diseases of the eyes and ears. The first clinic was held on August 5th, followed by daily clinics with one exception. Instruments to the value of more than $100.00 were donated to the ophthalmic department; total number of attendance at clinics was 1,311.

1896-1897

The last Legislature, after a full hearing as to our work in the past year, and our plans for the future, made an appropriation to assist in the completion, furnishing and equipping of the building. The appropriation was $15,000. Gifts of money was received from J. S. Sanborn, and from the estate of the late G. Washington Jordan.

1897-1898

On the afternoon of April 25, 1898, the East Wing was formally turned over to the directors by the building committee when the dedicatory exercises were held. The official opening of the new wing took place on the middle floor, the men's ward. Under the direction of the ladies of the Women's Hospital Association, a musical program was furnished by the two local high school orchestras. Prayer was offered by the Rev. Martyn Summerbell, D. D., of the Cobb Divinity School, pastor of the Main Street Free Baptist Church.

The building committee was composed of T. F. Callahan, Seth D. Wakefield and H. M. Packard. Mr. Callahan made the report for this committee and then turned the keys of the building over to the President, Hon. Seth M. Carter. President Carter received the keys and responded with fitting remarks (page 36, 7th annual hospital report) afterward calling upon Dr. E. H. Hill and other members of the staff to speak in behalf of the physicians.

1899-1900

Number of admissions greater than any other, the number being 563. Plans are being made for the erection of a kitchen, much needed; and laundry. Lack of funds cause of delay.

Guests at Poland Spring made up a "handsome purse" for the institution last summer, the amount being $1,875.00.

1900-1901

The past year shows a large increase in individual donors. James S. Sanborn, $5,000.00 (Chase & Sanborn Coffee Co.); Messrs. Ricker (Poland Spring), $1,000.00. Also donations from Bates Mfg. Co., Lewiston Bleachery and the Women's Hospital Association. The erection of the new Boiler House has started.

1901-1902

Erection of Boiler House has been completed and equipped. During the year work on the foundation of the laundry and kitchen was begun. The Lowell house on Hammond St. was purchased for a nurses' home. This was made possible through the generosity of Mr. J. S. Sanborn. Balance of $5,000.00 gift was received from guests of Poland Spring.

1902-1903

The treasurer received $5,000.00 from the late Sarah A. Edgecomb of Bath. The Legislature in addition to the annual appropriation gave the hospital $15,000.00 toward erection of the kitchen and laundry.

Dr. Hill retired from the Staff.

First public graduating exercises held June 12, 1903.

1920-1921

A portable X-ray unit was purchased for the X-ray Department.

The gift of a nurses' home was given by Mr. Charles C. Wilson of Auburn. To secure this home, the directors were called upon to reduce the mortgage debt which on September 30, 1920, amounted to $91,000.00. This was done under the leadership of Mr. A. B. Ricker. As a result on June 30, 1921, the mortgage had been reduced to $31,000.00 and we had increased our endowment fund $5,000.00. The Nurses' Alumnae Association contributed $1,000.00 at this time.

1921-1922

During the past year the directors have had weekly meetings on Friday. One of the most influential members, Col. Charles H. Osgood, passed away. The Institution was notified that his estate left our corporation $50,000.00 in addition to the $20,000.00 which had already been given in memory of his wife.

One of the most important happenings of the year was the opening of the Nurses' Home, January 12, 1922, when the keys of the new Nurses' Home were passed over to the Board of Directors by Mr. and Mrs. C. C. Wilson and their son and daughter, Mr. and Mrs. Harold C. Wilson. The dedication of this home will be remembered as the most pleasant occasion ever recorded by the directors of this institution. This gift cost $100,000.00. At the dedication of the nurses' home, Col. Osgood made the statement that he would give $20,000.00, same to be applied to the building of a new wing, the need of which had been felt for several years.

The Anna Louise Carey Raymond bequest of $5,652.84 was received during the year.

1923-1924

East Wing, wards C and B have been remodeled and what is known as the cubicle system has been installed to afford semi-private accommodations.

Through the estate of Charles Horbury bequest of $57,582.60 has been received. The remainder of the bequest of the Anna Louise Carey Raymond estate amounting to $3,726.83 was received.

For some time the need of larger and more scientific laboratory has been felt. Through the bequest of the late Dr. Hawkins, $10,000.00 was donated for this purpose, and the laboratory has been named the Hawkins Laboratory.

The first hospital day was observed May 12, 1924.

The roof on the Central Building was raised at a cost of $16,359.00 at which time a new laboratory was built, with an extra cost amounting to $18,103.25.

Our state appropriation for this year—$8,000.00.

The American College of Surgeons have recognized this hospital as a Class A Hospital.

1928-1929

During the past year, the endowment fund reached the total of $137,069.73, the largest bequest coming from Horatio G. Foss, $100,000.00.

1935-1936

There was added to the equipment of the X-ray Department a 200,000 volt X-ray Therapy machine. The gift of "Friends of the Hospital," who also made possible the further modernizing of the X-ray equipment. These changes have made the equipment in this department most modern in every respect. The department was named "Dr. Daniel F. Barrell and Dr. B. G. W. Cushman, X-ray Department," in honor of these two men whose exceptional ability was recognized and who gave their services freely in caring for the indigent sick.

1937-1938

The Fredrick Henry Gerrish Memorial Library was established; the Bingham Associates contributing $1,000.00 to this fund. A very fine table was donated by Horace Monroe. The Gerrish family contributed $400.00. Mr. and Mrs. Willis A. Trafton made a substantial contribution towards the furnishing of this library.

Another gift from Mr. and Mrs. Willis A. Trafton made possible extensive changes and improvements in the basement of the Center Building. In addition to the Student Nurses' Dining Room, previously mentioned, two other well-equipped and furnished dining rooms were completed. A new cafeteria was built and mechanical dish washing facilities installed.

1941-1942

The Hospital celebrated its 50th anniversary on November 6, 7, and 8, 1941. On November 6th the program consisted of lectures and demonstrations by the medical staff, and open house was held in the evening. Friday, continuation of lectures, Alumnae Tea in the afternoon, and graduation at Bates College Chapel for the class of 1941-B in the evening. Saturday there were lectures and demonstrations with a reunion banquet at the DeWitt Hotel, the speaker being James A. Hamilton, President-elect of the American Hospital Association.

1942-1943

Upon the death of Ralph W. Porter, the hospital became the beneficiary of the greater part of his estate amounting to $150,000.00. Under the will of Lizzie M. Sargent the hospital received approximately $23,000.00 to establish beds for charitable patients.

The board of directors authorized the establishment of the Central Maine Blood Plasma Bank, January 30, 1942.

A dental clinic was established, which was equipped with chair, instruments and other equipment for dental service.

1943-1944

Under the sponsorship of the Women's Hospital Association and they in collaboration with the local chapter of the Red Cross, a corps of Gray Ladies and one of Nurses' Aides was organized which proved to be a useful assistance to the Hospital, its patients, and personnel.

1944-1945

The hospital was saddened by the death of its Superintendent, Dr. Joelle C. Hiebert, on June 8, 1944. Dr. Hiebert served as superintendent from July 22, 1931, until his death. Dr. Hiebert's professional and Christian Ethics were an inspiration to all who were associated with him in the management of this institution.

1947-1948

In 1946, attention was called to the Corporators of the "Physical needs of the Hospital." A joint session of the Doctors and Directors was held to discuss the physical needs of the hospital to an expansion program and the ways and means of raising necessary funds. The directors voted on January 11, 1947, to proceed with a Building Fund Campaign. The goal was set at $400,000.00. Dr. E. C. Higgens was appointed chairman.

On October 1st, Glidden L. Brooks, M. D., was appointed Executive Director.

1949-1950

In June, 1949, the Stewart Wing and the renovations of the adjacent sections, included in the project, were practically completed. Renovations of East Two and East Three were completed, eliminating the open wards and replacing them with semi-private rooms.

In May, 1950, the Board of Directors honored members of the Hospital Staff, who have been employed for ten or more years, to express to these people the Hospital's appreciation for their many years of service. There were eighteen employees honered on this occasion, three of whom had served twenty-five years or more.

1950-1951

A Cardiac Clinic has been established.

The Bingham program as it relates to this hospital has undergone marked changes. Whereas it was primarily a subsidization of Laboratory and Pathological services, it is now educational and consultant and interests itself in the development of other aspects of hospital regionalization.

A Flame Photometer, a very new and most essential instrument for a modern Laboratory, was purchased.

Radium for the treatment of certain malignant lesions is now available in the X-ray Department and also the newest model of a powerful Deep Therapy X-ray machine has been purchased.

1951-1952

During the year approval of additional residents for pathology, radiology, medicines and surgery was granted by the American Medical Association.

In September, 1951, Doctor Dean Fisher, Executive Director, resigned to return to his former post as Director of the Bureau of Health in the State Department of Health and Welfare. Mr. Dana S. Thompson, Assistant Director, was appointed Executive Director.

A Sceopicon was added to the equipment in the Pathological Department.

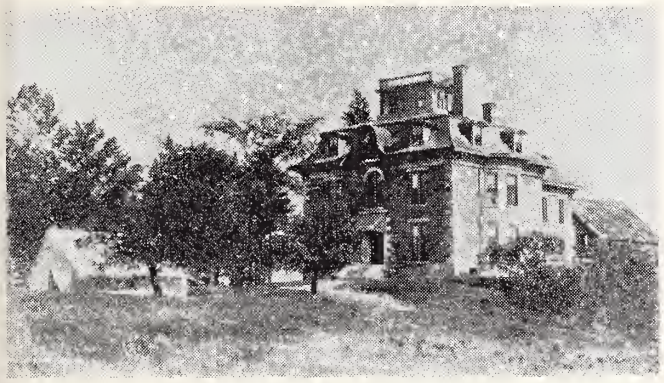
The Breen House was demolished in order to make space for a Doctors' parking lot.

The installation of a sprinkler system and fire doors was completed.

Eastern Maine General Hospital

For a year or more prior to the spring of 1892, the necessity of a hospital in Bangor had been appreciated and the subject of establishing one had been thoroughly agitated by the citizens of this city. On June 7, 1892, the Bangor Hospital was established and opened by five physicians, Dr. William H. Simmons, Dr. William C. Mason, Dr. Walter L. Hunt, Dr. Everett T. Nealey and Dr. William E. Baxter. The creation of this important milestone in the medical history of Penobscot County was accomplished with the understanding that such deficit as might arise in conducting the institution and in maintaining it at a proper standard would fall upon them as individuals.

They leased the Mace House on State Street, a stone building which originally cost some $45,000, situated on the Westerly bank of the Penobscot River (Fig. 1). The selected site was quite ideal

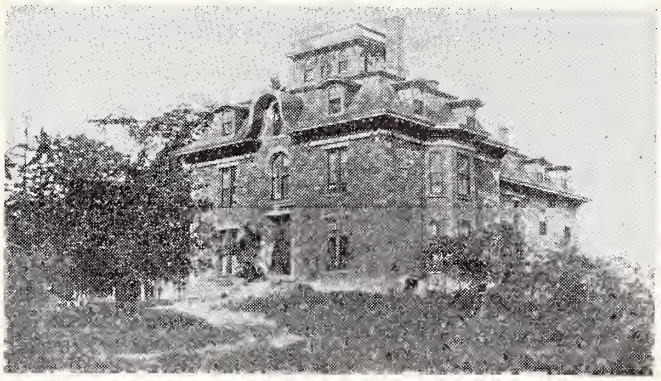


E. M. G. H. — 1896

as the building was some distance from the public highway and in no close proximity to the neighboring dwellings. The sanitary conditions of the institution were considered to be perfect because of the situation upon high land with drainage into the river at an angle of forty-five degrees. The lot upon which the hospital stands comprises two and one-half acres of land.

Much generous support and encouragement was given by nearly one hundred citizens of the community and on December 16, 1892, the hospital was incorporated under the general laws of the state, by-laws were adopted and officers were elected. During the first year of its existence the hospital admitted one hundred fifty patients. Only twenty-two of these patients paid the entire cost of their hospitalization, sixty paid part of the cost, and sixty-eight patients were treated entirely free. There were eighty-five operations performed, seventeen of which were on the Eye and Ear Service. Of the one hundred fifty patients admitted, fifty-one were from Bangor, fifty-one were from other towns in Penobscot County and forty-eight were from outside of the county. A training school for nurses was activated when the hospital was established.

By 1896 the hospital had already become inadequate to accommodate the demands of patients. In the summer of 1896 it was necessary to erect a tent on the hospital lawn (Fig. 2). In 1899 a new Ward Building was constructed at a cost of $36,000 (Fig. 3). It is interesting to note that Dr. B. L. Bryant was



E. M. G. H. — 1897

E. M. G. H. — 1899

elected to be Bacteriologist and Pathologist at the hospital in 1898.

On September 19, 1899, Dr. John B. Thompson of Topsham was elected as the first interne to serve at the Eastern Maine General Hospital. Dr. Luther S. Mason was appointed as interne on July 1, 1900. Both of these physicians are in the active practice of medicine in Bangor in 1953.

THE MEN IN MEDICINE IN EASTERN MAINE DURING THE EARLY DAYS

Edited by Richard C. Wadsworth, M. D., Bangor, Maine

The hardy settlers in our Eastern Counties lived or survived during the pioneer days without much advice and medical aid from any licensed physicians. They knew about the Indian Medicines and practices and kept a "doctor book" of some variety on the shelf. It was not until 1804 when a licensed doctor, Dr. Leach, appeared on the scene in Newport that regular medical attention was available.

Dr. Benjamin Wilson, Dr. Abijah Wright and Dr. John Benson, Sr., followed in the course of time. Of these Dr. John Benson left behind the most complete record. He was an able surgeon, sound practitioner, public spirited citizen and an active member of the Maine House and Senate. In 1862 he was commissioned a Surgeon in the 20th Regiment and served with honor until his discharge in 1863 because of ill health.

In 1820, when Maine became a state, the new constitution provided for quarantine measures. At that time Dr. J. F. Califf was practicing in Milo, Dr. E. Wheelock Snow was in Atkinson and Dr. Daniel J. Perley, who later moved to Old Town, was practicing in Orono. There is very little that can be related about many of these pioneer physicians as there was no accurate data recorded of their activities. Some of them had to make their rounds on foot or on horseback over narrow trails through an almost unbroken wilderness. Some of those trails had been made by the Eastern Indians leading to a portage from the rivers flowing into the Penobscot, to the Sebasticook by which they reached the Kennebec.

In the decade from 1820-29, a number of new physicians arrived in this region. Dr. Stevens came to Orono from China, Kennebec County, prior to 1826, but in a year or two died of consumption. Dr. Daniel Forbes, born in Bangor in 1802, and graduated from the Medical School of Maine in 1827, opened his office in Lincoln. He was the only physician in that town from 1827-32.

In 1829 Bangor was a town with its selectmen, town clerk, treasurer and collector. The population was about 2800. On the 16th of January of that year the physicians of Bangor met and formed the Association of The Physicians of Bangor. They adopted a code which in time was signed by twenty-two physicians, a large number for such a small town. The code did not differ much from those of modern times except for Article 6, which provided that clergymen and their families might be treated gratuitously. It insisted, however, that gratuitous visits to the clergy should not be "obtruded officiously" lest such "unasked kindness should interfere with that choice on which confidence depends."

A fee table was adopted, the fees being based on the distance from Kenduskeag Bridge. Within one mile the fee was four shillings, six pence, about seventy-five cents. Three shillings, or fifty cents, was charged for each additional mile beyond that radius. A tooth extraction, blood letting or dressing a wound at the surgeon's house cost fifty cents, but the treatment of disease contracted through lapse of virtue cost ten to twenty dollars. These fees were minimum, and double fee was charged for the visit if an irregular practitioner had previously been in attendance. The contemporary obstetric fee was not recorded. Later it was five to ten dollars.

The first officers of the association were Hosea Rich, Moderator, and J. P. Dickinson, Secretary of the Faculty, as the members were called. At one of the early meetings it was voted "that the faculty may severally make proposals for the medical attendance of the paupers at the town alms house." On April 15, 1831, it was voted that "forty dollars be the lowest price for which the paupers of the Town of Bangor at the poor house should be contracted for, and the privilege of sending in this contract be decided by lot." On December 5, 1831, it was voted that "every member absent from meetings half an hour after the time appointed shall pay a fine of one dollar."

The rules provided that an essay on some medical subject should be read at each meeting, and this rule was well observed. Dr. Dean, on October 4, 1837, was excused from reading an essay because he had lost his paper, but there appears to have been some discussion on the matter.

On June 22, 1832, the Association concluded an agreement with the selectmen of the town whereby the Association agreed to "vaccinate all such persons, inhabitants of Bangor, as shall not object to the same." The selectmen agreed to pay twenty-five cents for each vaccination provided a certificate was given and the names reported. Drs. Barker, Cushing, Bradbury, Dean, Rich, Dickinson and Mason thus undertook, by contract, the first systematic vaccination of the people of Bangor.

During the same year a report was made by the Association embodying "Rules and regulations to be observed by the inhabitants of this town in relation to the Asiatic cholera, a malignant disease now prevailing in the province of Lower Canada." The report gave good advice and concluded by saying, "We would further most religiously enjoin it on the good people of this place to divest themselves from all unreasonable alarm and excitement, believing as we do that fear and depression of spirits are among the most powerful predisposing causes of the disease

which they so much dread, and that cheerfulness, temperance, cleanliness and proper attention to regimen and diet will in most instances, prevent the disease or render it mild and manageable."

On and after December 23, 1835, the society was known as the Bangor Medical Association. It continued to meet with reasonable regularity until 1843. Its decline dates from the organization of an association which admitted to membership, physicians of neighboring towns.

Quarrels among members of the original Society, resulting from professional jealousy, led to the organization of the new association, which was incorporated March 25, 1837, under the name of "Penobscot Medical and Surgical Association." The act of incorporation was signed by H. Hamlin, Speaker of the House, J. C. Talbot, President of the Senate, and Robert P. Dunlap, Governor. Just how long this society lived is not known, as no records have been found. On February 4, 1840, a call for the semi-annual meeting was published in the *Bangor Courier*. Therefore this Association existed for at least three years.

Not all of the early physicians were trained in this country. Dr. Daniel McRuer, who practiced in Orono in 1830, was a native of Scotland. In 1835, Dr. Joseph Springall located in Dexter. He was born in Norwich, England, and attended English schools, including London Medical College. He emigrated to Canada in 1831 and was employed as Medical Advisor in the Emigrant Hospital in Quebec. Although he left Dexter to practice in Garland for about twenty years, he returned in 1859 to practice in Dexter where he died in 1895.

Between 1827 and 1848 there were five physicians practicing in Lincoln. Probably the best known was Dr. Moses Sweat Wilson, who came to Lincoln in 1848. His fame appears to rest not only upon his outstanding ability as a physician, but to some extent upon his traits of character. In his early years Dr. Wilson was accustomed to take with him a young boy, Philip, who acted as his assistant in many ways. On one of his visits the doctor found it necessary to extract a bad tooth from one of his patients. The patient, a woman, was requested to sit on the floor while young Philip was seated facing her, holding down her legs by sitting on them and immobilizing her hands by grasping her wrists. When all was ready, Dr. Wilson is quoted as saying, "Hold her now, Philip,—hold her. If she gets her hands free she'll scratch your eyes out."

He practiced in Lincoln for about fifty years and is said to have lost only one woman in child-birth during that time. Many of his calls were made on horseback, especially in the winter, when there were only narrow paths in the snow through the woods to the nearby towns.

Dr. Rabon, who practiced medicine in Lincoln in those early years, was noted more for his remarkable agility than for his professional ability. At that time molasses was delivered to stores in a hogshead, a large wooden barrel holding two hundred gallons. After the molasses was drawn out, the head was removed from one end and the barrels were then used for storage of grain, water or maple syrup. Such a barrel, standing on end, measured forty-four inches in height and had an inside diameter at the open end of thirty-one inches. Dr. Rabon arranged three hogsheads in a row, in the street, with open ends up, each hogshead touching the one next to it. He is reputed to have won a bet by jumping square-footed from the ground into the first one, from there into the second, from there into the third barrel and from there onto the ground without touching the side of any of the hogsheads.

By 1850 most of the physicians were graduates of a medical school although many of the earlier men were products of the apprentice system. The career of Dr. Hosea Rich, of Bangor, was typical of many of these early physicians. On July 4, 1805, he arrived in Bangor where he practiced actively and successfully for over sixty years. His first major operation in Bangor was an amputation, and his last, when he was over eighty years of age, was for a cataract. His circuit extended fifty miles and he occasionally went one hundred miles to see patients. The Maine Medical School gave him an honorary degree in 1851. He died in January, 1866.

Although no severe epidemics are recorded in Penobscot County in the first half of the nineteenth century, it appears evident that typhoid fever and cholera appeared with sufficient frequency to cause some alarm. An early history of Newport mentions that cholera was present in the year 1849. This was seventeen years after the "Rules and Regulations" formulated by the "Association of the Physicians of Bangor."

On February 15, 1854, thirteen physicians met at the home of Dr. Hosea Rich and organized the Penobscot County Medical Association. A constitution was drawn up modeled on that of the State Association. The next month twenty-three physicians met at City Hall, adopted the constitution and elected the following officers: Hosea Rich, President; G. E. Bradbury of Old Town and John Benson of Newport, Vice Presidents; W. H. Brown, Secretary; G. C. Weston, Corresponding Secretary; and Charles Alexander of Orono, Treasurer. An attempt to start a medical library was not successful. One year later the Association boasted sixty members residing from Houlton to Ellsworth. The admission fee was one dollar.

The records of the Secretary are of considerable interest in revealing the nature of the subjects dis-

cussed at the meetings of the Association. In March, 1855, Dr. Rich made some observations on his removal of a scirrhous mammary gland weighing two pounds, three ounces, and also on the removal, by lithotomy, of a stone weighing two and three-eighths ounces, the nucleus of which was a leather string. In the evening, Dr. Bradbury of Old Town lectured on "The Medical Profession, its Benefits and Rewards."

In June of the same year, the society resolved that "we individually and jointly continue our unceasing and uncompromising exertions till we procure a law for legalising the study of anatomy that shall satisfy the demands of the profession, and that no individual, class or party shall have political support who has not the independence and humanity to support such a bill." At the same meeting a member was by unanimous vote expelled for habitual intemperance.

We have lamentably little knowledge of these, our medical forebears. They have been described as men of dignity and poise, cultured and of marked intellectual power, eager to advance their knowledge and skill. The patient was their prime consideration, and they spared neither time nor effort on his behalf. They had a strong sense of their responsibility to the community in matters of public health. They were self-confident and strong-willed. Having no precise methods of diagnosis, differences of opinion were inevitable, and led occasionally to quarrels and bitterness. In the main, they had a high regard for professional honor and ethics. With their faults, which were of the times rather than of themselves, we can have sympathy, and for their virtues, the highest respect.

In 1860, the use of opium in the treatment of typhoid fever was discussed. There was general agreement that the dose should be large enough to quiet the patient, and that insufficient doses should be avoided. Repeated doses of half a grain of morphia should be given until quieting effect is produced. At a later meeting it was advised that cathartics should not be used, but that laxatives were useful. Castor oil and lemon juice, a teaspoonful of each, was recommended. Veratrum viride was found useful to check "excited heart action," and sugar of lead or silver nitrate with opium were good when diarrhoea or hemorrhage became troublesome. There was no mention of restriction of fluid as was practiced in some areas.

In February, 1863, the physicians had to increase their fees fifty per cent because of increased living costs and depreciation of the currency.

In February, 1870, Dr. Laughton exhibited a heart, taken at post mortem, showing a ruptured left ventricle. It was his opinion that the cause was the abuse of tobacco. The Association did not take this to heart until some forty years later when it voted not to furnish cigars at dinners.

Epidemics of diphtheria were very troublesome. There were thirteen deaths in Brewer in the spring of 1878 followed by another outbreak of twenty-five cases with five deaths. Six cases were treated with sulphur and all died. Others were treated with potassium chlorate. Iron was used both locally and internally and stimulants were given early. Local heat was advised. Half a drachm of fluid extract of ergot was given for nasal hemorrhage. An army doctor recommended silver nitrate. Tracheotomy was first mentioned in 1878.

The Civil War was a stimulus to medicine. The many casualties and sicknesses enabled the profession to make considerable scientific progress. Men returned from the war as better doctors and had added dignity and importance. The Association became more prominent and active. In 1870, it was voted that meetings should be held monthly. In February, 1871, Dr. A. C. Hamlin read a paper on the transfusion of blood.

These physicians were keenly interested in their work and were glad to hear of advances in knowledge. They were not, however, swayed by popular fancies. Thus, in 1872, they discussed the merits of condurango, a cancer remedy. The conclusion was that "the curative power of the drug had been much exaggerated by the parties who were instrumental in bringing it to the notice of the public." At times a member would bring in a problem patient, often at considerable inconvenience to himself. The president would assign three physicians to examine the patient, suggest a diagnosis, and recommend treatment.

There was, at this time, a high regard for professional honor and ethics. There was no hesitancy in calling a member for breach of the code. On at least one occasion a member was expelled for unethical conduct and advertising. After due time this member was reinstated in the Association. It is interesting to note that they asked the newspapers, when reporting an illness or accident, to refrain from printing the name of the attending physician.

During the last quarter of the nineteenth century numerous medical frontiers were being opened in the more northern districts. One of the first physicians to practice on the American side of the St. John Valley was Dr. T. H. Pelletier, a graduate of Laval University in Quebec. He practiced in this region from 1870 until 1905 when he retired. Traveling conditions were very primitive and fees were ridiculously low compared with the standards of 1953. Confinement cases usually yielded one dollar; occasionally one dollar and a quarter. Even so, the general impression existed that doctors made exorbitant charges. The superb fishing was one of the few attractions that counterbalanced the hardships of medical practice in this region.

Toward the turn of the century, however, there were five physicians who had permanently settled in the St. John Valley. Drs. Archambault and Page were established in Fort Kent, Dr. Cote was in Frenchville, and Drs. Hammond and Louis Albert were in Van Buren. Conditions had improved in thirty years, but it remained for the introduction of the automobile to develop the changes required to create ready accessibility of the physician to his patients.

For many years Greenville and the Moosehead Area had no physician. This vast area was occupied mostly by lumbermen who, in case of accident or illness, cared for each other as best they could. In 1884, Dr. Hiram Hunt, a Dartmouth College graduate, received his degree in medicine from the Bowdoin Medical School and set out, with his horse and carriage, for Monson, Maine, where he had been advised to locate. Dr. Hunt was the uncle of our President-Elect Norman Nickerson.

When Dr. Hunt reached Monson, he found that Dr. Hall had already located there. Dr. Hall told him that a physician was much needed in Greenville, fourteen miles to the north, on the shore of Moosehead Lake, and gave him a letter of introduction to Mr. Shaw, who was then the leading lumber operator in the Moosehead region, who in turn found a place for Dr. Hunt to board in the home of Major Benjamin Bigney. Five years later he married Mabel Bigney, the Major's daughter. Thus the first physician came to Greenville and covered the huge territory from Blanchard and Shirley Mills north to the Canadian border, including Chesuncook Village, Seboomook, the West Branch of the Penobscot River and all of the innumerable sport and lumber camps between.

The difficulties of travel over this huge territory were a challenge to the physician. There were no roads from Greenville on either side of the lake. Travel was by canoe, steamer and later by speedboat to Seboomook or to Lily Bay in summer. In winter it was over the frozen lake by team. A trip to Chesuncook Village in summer meant a trip to Seboomook and down the West Branch of the Penobscot to Chesuncook Lake, and then across the lake by canoe. In winter it meant a drive by horse and pung to Lily Bay, twelve miles over the ice of Moosehead Lake, oftentimes crossed by huge "ice-wrinkles." From there the trip led overland to Kokad-jo, Grant Farm, and Chesuncook Dam. The trip up Chesuncook Lake was treacherous because of the strong current and the unsafe ice so that it was customary in winter to use a woods road running up the side of the lake. In summer a boat was used. The lumber companies were of great aid to the doctor on his rounds, lending him a fresh horse from one main point to another. On his way back the horses were again changed so that each horse was returned to its own stable. This trip took two or three days and frozen ears, noses and cheeks were to be expected.

In 1884, the first Bangor and Aroostook train reached Greenville. The Canadian Pacific built its line through Greenville from Montreal to St. John in 1888. At the end of the Bangor and Aroostook line there was a junction with the Canadian Pacific and thus the section known as Greenville Junction had its origin. In 1906, the Maine Central Railroad reached Rockwood Wharf with its first passenger train. Rockwood and Kineo were now much easier to reach in winter as the Canadian Pacific train went into Somerset Junction. From there a handcar was commonly used over the Maine Central Line, six and one-half miles to Rockwood, and Kineo was just across the lake.

In 1902, Dr. Hatch became interested in building a tuberculosis sanitarium near Moosehead Lake and finally persuaded Mr. Arthur Crafts to finance its construction. On a high parcel of ground at the foot of Squaw Mountain, with a beautiful view of the lake, a building with broad verandas was erected. In spite of its fine natural setting, it was too isolated and the venture was unsuccessful. When it was discontinued as a sanitarium it was converted into the present Squaw Mountain Inn.

In 1906, Dr. Fred J. Pritham came to Greenville and located in the section known as Greenville Junction. He is still practicing medicine there in 1953.

As years passed the need for a hospital was felt. The nearest hospital was the Eastern Maine General Hospital in Bangor, a long, hard trip over poor roads. Primarily to provide a suitable place for workmen to stay, Charles A. Dean, president of the Hollingsworth and Whitney Paper Company, erected a large four-story brick building at Greenville Junction and the Y.M.C.A. took over the management of it. Dr. Hunt persuaded Mr. Dean that a local hospital to care for the sick and injured would be a great advantage to the employees of the company. Consequently, the fourth floor of the Y.M.C.A. was made available for use as a hospital. There was an operating room, a small ward, some storage space and private rooms, eight beds in all. This was Greenville's first hospital and was a great help to Drs. Hunt and Pritham in their practice.

The hospital soon outgrew its quarters. Furthermore, it was often noisy at the Y.M.C.A. and it became increasingly evident that a hospital in a separate building was badly needed. Dr. Hunt again went to Mr. Dean and paved the way for the erection of a new hospital which still serves this large area. Dr. Hunt served as chairman of the Board of Trustees until his death on November 4, 1919.

There were few epidemics in the Moosehead area.

The spread of smallpox from a lumber camp in Jackman in 1917 caused considerable consternation. The men scattered from there to their homes all over Maine and Southern Canada without being stopped, as the doctor then living in Jackman did not believe in quarantine. Those coming to Greenville were isolated in a small pest house just outside of the village. The spread of this disease was probably averted by this policy of isolation and by the fumigation of the lodgings in which the patients stayed.

It may be difficult for some of us to realize that pioneer medicine was still practiced in Maine in the twentieth century. Drs. Pritham and Nickerson can attest that it was not until the winter of 1930-31 that Greenville had its first plowed roads. Cars were used from then on. Canoes, snowshoes, horses, pungs and frozen ears became a memory. Today a good road leads up each side of the lake and airplanes are available for long trips to isolated sections.

One of the first men to practice surgery in Aroostook County was Dr. Sherman W. Boone who came from New Brunswick in 1887 at the request of Dr. Frank Kilburn, a medical man, also from New Brunswick. Dr. Boone continued in the practice of surgery until 1936. A few days after Dr. Boone arrived in Aroostook County he performed the first laparotomy in the county for acute peritonitis, supposedly appendicitis. It may be recalled that the classical paper of Reginal Fitz on "Perforating Inflammation of the Vermiform Appendix; with Special Reference to its Early Diagnosis and Treatment" had only recently appeared in the June, 1886, Transactions of the Association of American Physicians. Dr. Boone's operation was successfully carried out with crude equipment and without methods of sterilization. This act of courage taxed the ingenuity of the young surgeon and helped to develop the resourcefulness needed to put into practice the surgical methods which he had learned at McGill University in Montreal. This ingenuity and expediency continued to be manifest as his practice continued. He, along with Dr. A. D. Sawyer, Dr. Kalloch and Dr. Chamberlain, all of Fort Fairfield, and Dr. E. H. Doble of Presque Isle performed the first Cesarian operation to be done in Aroostook County. The scene of this operation was a one and one-half story single board house, covered with tar paper, located in the town of Easton near the Maine-New Brunswick line. It was in the middle of winter with six feet of snow on the ground. There were no means of sterilization. Only sheets and blankets served as partitions. In spite of the handicaps the operation was successful. Both mother and child survived to be normal citizens.

Those who practiced medicine in Aroostook County at this time were quite aware that the burden of the physician was considerably lightened by the nursing profession. A nurse to whom much credit should be given was Stella Collins of Mars Hill, a brave and highly capable person in her profession. The only pay which she ever received for her services was an old horse.

One of the early physicians in Aroostook County was Dr. Lindley Dobson who practiced in Ashland. He was a great student and was widely known throughout the county because of his surgical ability and diagnostic acumen. Like many of the physicians of this era he was a truly great and well-balanced "Physician and Surgeon." He was active up until the age of eighty-two.

Dr. A. H. Damon of Limestone is one of Aroostook's oldest and most highly respected physicians, who has excelled as a model type of country doctor, and who is still quite active at the ripe old age of eighty-four. Many families in the town of Limestone and in many other towns along the Canadian border will long remember him as a great friend and physician.

An Aroostook physician who started as a country doctor and who later became a pioneer in radiology is Dr. E. H. Doble who came to Presque Isle in 1900. In 1903, with a static machine he began to do his first X-ray work. There were many obstacles to be overcome. The electric power generated by the Aroostook Lumber Company in Presque Isle was not always available. He was forced to devise other methods to generate electricity to operate his first fluoroscopy unit which was used to aid other physicians in diagnosing the ills of their patients. For some time he used a boy to turn a crank of a machine in order to generate static electricity. Lack of A.C. and D.C. motors later forced him to use a small armature compound steam engine that appeared on the first White steam cars. Later he used the Schidel-Western coil which appeared on the newer types of apparatus for exciting the X-ray tube for diagnostic work. Dr. Doble has served the physicians and public of Aroostook County for fifty years.

Throughout the first half of the twentieth century physicians have continued to assume responsibility not only to alleviate the suffering of the sick and to restore the incapacitated to useful lives in the community, but they have done much to make their various communities healthier and pleasanter places in which to live. Prior to and including 1904, Bangor was the victim of annual or sometimes semi-annual outbreaks of typhoid fever with from one to several hundred cases. Physicians of that time say that it was not uncommon to make twenty calls daily on typhoid patients. In 1904, from March to May, there were about five hundred cases, and before the end of the epidemic there were about one thousand cases with fifty deaths. Time and again individual physicians had pointed out the source of the infection, but the people of the community were indifferent.

Dr. Daniel McCann, who was then president of the Penobscot County Medical Association, pointed out the responsibility of the medical profession to take some positive action toward controlling this scourge. This responsibility was accepted by the Association which stated in the press that the Penobscot River water was responsible for the dissemination of typhoid fever. Hostile criticism at once arose among the business interests on the ground that these interests had been dealt a staggering blow without sufficient thought and knowledge. The leaders in the unit were stigmatized as "grafters" who wished to help financial interests and who were anxious to get control of the Water Works. A group of young business men studied the matter thoroughly, and as a result of their study and recommendations, the filter plant was improved and the water rendered safe. Since then Bangor has been free from epidemic typhoid originating in its water supply.

In 1907, the Association called attention to the inadequate facilities for the care of the insane, and petitioned the legislature to improve conditions. In the same year it asked the municipal officers to appoint a milk inspector.

Two major wars and our present so-called "cold war" have interrupted the services of many physicians in the Sixth Councilor District to the communities in which they have settled. We are proud of our medical progenitors. If we have outgrown some of their faults we are thankful, and we pray that we may always retain their virtues.

LINCOLN COUNTY

In Dr. Spaulding's book, Physicians of 1820, it is shown that the majority of the practitioners of medicine had established themselves along the coast and in the valleys of the Penobscot and Kennebec. The coast towns and river settlements flourished; ship building employed many skilled craftsmen and engaged the dollars of investors and bankers. The inhabitants of these settlements were able to support good doctors. Lincoln County in the 18th Century comprised about 3/5th of the Province of Maine but was gradually whittled down by division into Hancock, Kennebec, Waldo, Androscoggin, Sagadahoc and finally Knox. Although now one of the smallest counties it is rich in historical lore. One of the oldest white settlements along the Atlantic was at Pemaquid in 1607. From that date on Lincoln has been blessed with many skillful physicians.

Dr. Rufus Stetson of Damariscotta has prepared an interesting account of the versatile doctors who practiced in Lincoln County from the prerevolutionary days, indeed, the early colonial days down to the present time. It is planned to have the account of the 18th century doctors who settled in the county published at a future date. In this issue we publish the story of the medical men who flourished during the 19th century. Writing of physicians who lived in the county after 1800, Dr. Stetson mentions among the first of them, Dr. Frederick Robie—and writes as follows:

Born in Gorham, Maine, in 1822, Dr. Robie graduated from Bowdoin College in 1841 and then studied medicine at Jefferson Medical College. He settled in Waldoboro in 1845 where he remained up to the time of the Civil War. He served as a Lieutenant Colonel during the war. He was sent to the State Legislature where he was Speaker of the House, 1872-1876, and became Governor of Maine in 1882.

Probably the most prominent physician of this entire era was Dr. Daniel Rose, a graduate of Yale in 1791, who practiced in Boothbay Harbor from 1795 to 1823 and who was active in State as well as municipal affairs. He was a delegate to the General Court of Massachusetts; a delegate to the convention for framing the State Constitution in 1819; a State Senator in 1820-1821-1822; President of the Senate in 1822 and acting Governor from January 2 to 5, 1822. He was an Overseer of Bowdoin College, 1821-1831. He was instrumental in having the State Prison located in Thomaston and was its first Warden, as well as physician to the prison. He died in 1833. Lincoln County and the medical profession may well be proud to claim a man of such attainments. Dr. Rose had a son born in Boothbay in 1813, who graduated from Medical School of Maine in 1836 and practiced in Thomaston from 1837 to 1871. Although he never became prominent in affairs of State as did his distinguished father, he was an able and highly respected physician.

Dr. Hiram Bliss, a Dartmouth graduate (1825) came to Waldoboro in 1833 and lived there until his death in 1874. He was a great admirer of Daniel Webster and is said to have driven all the way to Boston to hear his Bunker Hill address.

This section of the County was particularly fortunate in the quality and supply of its doctors all through the Nineteenth Century. This was probably due to the fact that our coastal settlements and the towns located on navigable waters where shipbuilding flourished, were both more populous and more prosperous than those villages located further inland.

Ten or a dozen other physicians lived and practiced for short periods of time at Boothbay Harbor during the latter half of the Nineteenth Century. Among them was Dr. John F. Hill who came to the

Harbor in 1879 but later gave up practice to go into the publishing business in Augusta. There he prospered to such an extent that he was elected and served as Governor of his State from 1901 to 1905.

Another was Dr. John Carter who practiced there from 1862 to his death in 1893 when 73 years of age.

Dr. Franklin Crocker, a graduate of Bowdoin College and of its Medical School, practiced at the Harbor from 1882 to 1891 when, for business reasons, he returned to his home town of Machias. He was successful and highly regarded as a physician.

Dr. Robert Dixon was born in 1820 and died in Damariscotta in 1888 after a long and faithful service to his country. During the early part of his practice he traveled mostly by horseback. Later, his familiar two-wheeled gig might be seen at any hour of the day or night and often many miles from home.

It is said that he measured out quinine and calomel with a heavy hand until heads rang and teeth loosened in their sockets but no fatalities from this cause were known to have occurred. He was chary of his diagnoses, however, and if any patient had the temerity to inquire as to the nature of his illness, he was answered in Latin and any further inquiry was met with the harsh rebuff that it was none of his d - - - business. Nevertheless he was highly respected and much beloved.

Henry Elmer Fernald was born in 1866 and lived to the age of 77 years, dying in 1943 — just two months short of a fifty-year span of practice. He transferred from the Maine Medical School at Bowdoin to Dartmouth where he received his M. D. in 1893. His entire professional life was spent in East Boothbay. He was frequently called across the Damariscotta River to attend cases in South Bristol or Christmas Cove and continued to make these arduous trips right up to the end of his life.

The number of physicians diminished with the decline of the shipbuilding era and their duties increased to the point where they had little time for any activities outside their profession. There are a few links which bind one era to another and the late George H. Coombs of Waldoboro is an outstanding one. Born in Brunswick, Maine, about 1860 and Bellevue trained, he spent the major part of a long life (he was well in his eighties when he died) caring for a large and far-flung country practice. Small in stature, he was Napoleonic in courage and endurance. In the early days of his practice, he traveled largely on horseback; then came the horse-and-buggy days and, finally, the automobile, but one way or another, he never failed to respond to the call for assistance day or night. While he at one time accepted a position with the State Department of Health and fulfilled those duties with honor and discretion, the latter years of his life were spent attending his home folk in Waldoboro.

A somewhat earlier group of physicians served the Damariscotta area but, like Dr. Coombs, they link the Nineteenth to the Twentieth Century. They were Edwin F. Stetson, Joseph M. King and William H. Parsons. Also, Jacob W. Paul Goudy who lived and practiced in Bristol Mills. Dr. Goudy was born in Bristol in 1866 and did not take up the study of medicine until relatively late in life. He "read" medicine for some time in the office of William H. Parsons and then went to the University of Vermont where he graduated shortly before the turn of the century. He died in 1938 when seventy-two years of age — a sad loss to his community.

Dr. Stetson was born in Damariscotta in 1853, educated at Lincoln Academy, Bowdoin College and Harvard Medical School, and graduated from the latter institution in 1879. After a few years of practice in the Middle West, he returned to Damariscotta where he spent the remainder of his life. He died in his seventieth year and was active up to a few months before his death. He was regarded as an unusually able diagnostician.

Dr. Joseph Melville King, born in 1856, graduated from the Homeopathic School of Medicine, Boston University, in 1879. He was a highly successful and much beloved physician and continued to practice up to the time of his death in 1926.

Dr. William H. Parsons was born in Buckfield, Maine, in 1861, and graduated from the Medical School of the University of Vermont in 1885. He had a large and active practice until his retirement in 1941 and was well in his eighties at the time of his death.

A daughter of Dr. King, now Mrs. Geneva Strout, became a nurse and founded the Memorial Hospital in Damariscotta in 1928. A new and well-equipped, thirty-bed hospital was made possible through the generosity of Mr. and Mrs. Samuel A. Miles, for many years summer residents of Bristol, and the old hospital moved to its new quarters in July of 1941 under the name of The Miles Memorial Hospital. Located in the geographical center of the County and staffed with a fine group of physicians and surgeons, as well as consultants from Portland, Bath, Rockland, Lewiston and Waterville, this institution renders the highest type of service to residents of Lincoln County and summer visitors from New York, Boston, Philadelphia and other large cities are generous in their praise of the care they receive there.

The only other hospital in Lincoln County is St. Andrews located at Boothbay Harbor, which was established in 1908 by Dr. George Augustus Gregory. Dr. Gregory was born in 1865 at Churchover in Shel-

burne, Nova Scotia. He attended Shelburne Academy and after one year at Dalhousie Medical School, he transferred to the Maine Medical School where he received his M. D. in 1891. He practiced medicine and surgery in the Boothbay region for fifty-five years and was a Fellow of the American College of Surgeons.

His son, Philip O. Gregory, was associated with him for some years before his death and succeeded his father as County Medical Examiner and as head of the St. Andrews Hospital. The Hospital was enlarged several times and in 1950 the St. Andrews Clinic was built in memory of George Augustus Gregory.

Other names which appear in the records of the Nineteenth Century as practicing physicians of Wiscasset are John Church, Rufus H. Cunningham, Sidney Beaman Cushman, Daniel Knight Kennedy, Irving Ellis Kimball, Clarence Ardeen Peaslee and Silas Appleton Stephens. One of this same group, although he lived in the adjoining town of Alna, was Albert M. Card. Born in 1850, he graduated from the Maine Medical School in 1875. He settled in Alna in 1876 and remained there until his death in 1926. He was a Trustee of Lincoln Academy and of Erskine Academy. He had a large and widely scattered practice in the Northern part of the County.

No historical review of medical events and personages of Lincoln County would be complete without recalling an amusing incident in relation to the introduction of ether anesthesia into this locality. Dr. Rufus C. Chapman was born in Nobleboro in 1822 and practiced dentistry in Newcastle and Damariscotta until eighty-six years of age. He died at 90. He prepared himself for his profession, as was then the custom, by studying under the auspices of an established dentist in Lynn, Massachusetts. While studying there, he frequently attended surgical clinics at the Massachusetts General Hospital and happened to be present on the occasion of the first public demonstration by Dr. Morton of the new anesthetic. Recognizing the odor of ether, Dr. Chapman purchased a bottle on his way back to Lynn and proceeded to demonstrate its anesthetic qualities on his partner. The results were unexpectedly dramatic as his subject was quite blonde and unusually susceptible to the fumes of ether and before either of them realized it, he was rather deeply anesthetized. Dr. Chapman used to chuckle as he related the shock he experienced when for a moment he feared he had carried his experiment too far, but seizing his victim by the shoulders, he dragged him from the chair to the floor and flung the contents of a nearby water pitcher full in his face. A very wet and angry subject had to be forcibly restrained from taking physical reprisal but from that time on they employed ether as an anesthetic for the extraction of teeth. Shortly after this event took place, Dr. Chapman returned to Damariscotta to establish himself in the practice of dentistry.

The leading physician of the place at that time, Dr. Robert Dixon, whose old home is now the Town's Public Library, was most skeptical about the new anesthetic and refused for some time to permit Dr. Chapman to demonstrate its powers. However, occasion arose when it was necessary to incise a badly infected ingrowing toenail and believing this to be an excellent opportunity to show up what he believed to be false claims, Dr. Dixon requested Dr. Chapman to administer ether. This was the first strictly surgical procedure under ether anesthesia in Lincoln County and the good doctor was amazed by the unqualified success of the demonstration and immediately converted to the use of this wonderful anesthetic. Although this Nineteenth Century with which we have been chiefly concerned was by and large a period of progress and prosperity for Lincoln County and although she was generously supplied with, for that time, an unusually well educated group of physicians, we must remember that many of the old superstitions were rampant and it was only toward the end of the century that improved health and pure food laws began to discourage the old Indian Medicine Man who peddled his nostrums under the flare of a kerosene torch on the street corners of every country town and hamlet during the summer months and the vendors of patent medicines of all sorts who urged, through unrestricted advertising, a gullible public to lay in an ample winter supply of their various "cure alls."

A good illustration of the kind of thing our brothers of that day had to combat is found in an advertisement that appeared in the Lincoln Democrat published in Newcastle under date of September 21, 1853, only one hundred years ago: "Mrs. Norcross, the Clairvoyant Physician, is again in town at the Maine Hotel. The astonishing readiness with which she finds and describes hidden disease, as well as the remarkable cures she has performed on cases that have baffled all ordinary medical skill for many years past, has confounded skepticism and acquired for her a celebracy that she justly deserves. She remains in town a few days longer." Such blatant and unreasonable claims undoubtedly attracted no small numbers of the more ignorant public and lured many a hard-earned dollar from the pockets of those who might better have sought aid for the relief of their ailments from the kind and honest doctor usually available. Spiritualism was also rampant and hypnotism and mesmerism were much discussed. One family of Damariscotta, known to be Spiritualists, held seances and one of the women of that family was

said to be a medium and that she was able to go into a trance for days and weeks when all life seemed to be suspended. The time came when she failed to rouse from such a supposed trance and finally after several days the town authorities called in the good Dr. Dixon who declared her dead and ordered her burial in spite of objections from the family and their followers. The house still stands where these events took place and it is said that at some later date a process of remodelling disclosed wires and speaking tubes leading from an adjacent room to the one where the seances were held!

Since the turn of the present century, Lincoln County has continued to be well and ably served by, for the most part, well-educated, well-trained and conscientious physicians and surgeons. To this group should be added the name of Fred Houdlette Albee, a native of Lincoln County, and one of the most noted surgeons this country has ever produced. He was born in 1876 in Alna and was educated at Lincoln Academy, Bowdoin College, 1899, and Harvard Medical School, 1903. He interned at Massachusetts General Hospital and then went to New York to practice orthopedic surgery. His specialty was bone grafting and the invention of special instruments to facilitate this work. He was the recipient of many honorary degrees in this country and a number of foreign decorations were bestowed upon him. He became professor of Orthopedic Surgery in the Post Graduate Medical School of Columbia University and consultant to many other institutions. He lectured and demonstrated his bone grafting procedures in England, Germany, France, Spain, Holland, Cuba, Italy, Norway, Sweden, Denmark, Roumania and Czechoslovakia and Central and South America. He was a Founder and Governor of the American College of Surgeons and a Past President of the International College of Surgeons. He was commissioned a Major in World War I and advanced to Colonel. Immediately following hostilities, he organized and directed the big military rehabilitation hospital at Colona, New Jersey. It is said to have cost $3,500,000 and within fifteen months 6,000 soldiers were treated there. He died in 1945 and will be best remembered for the rehabilitation work he did and the "bone mill" he invented that made possible the restoration of so many crippled soldiers and children to a happy and useful existence.

We will let future historians record the names and accomplishments of those physicians who have served or are still serving the citizens of Lincoln County in this Twentieth Century. Let us hope they may be found as worthy of emulation as their predecessors.

MEDICAL PIONEERS FROM SAGADAHOC

Among the Founders of the Maine Medical Association were many practitioners of our western counties; York, Cumberland and Sagadahoc.

From Sagadahoc came three, Dr. T. G. Stockbridge, Dr. A. J. Fuller and Dr. Amos Nourse, who maintained a lively interest in the formation of the group. In the course of time every one of these men filled the President's Chair. Dr. A. J. Fuller left a nephew, Dr. Edwin M. Fuller, who practiced many years in the Ship Building City. He in turn left a son, Dr. E. Motley Fuller, well known by many of us who practice medicine today and E. Motley left a son who practiced in Bath for a time but is at present practicing in another State. Sagadahoc doctors although not numerous were a vital force in establishing our present association.

Bath, the largest city in the County, dedicated in 1909, the Bath Memorial Hospital. The hospital maintains 85 beds, is well-equipped and fully approved by the American College of Surgeons. The hard-driving, far-seeing and devoted doctors of 1850-60 would be gratified with the developments which their followers have achieved in Bath.

Virtue Is Its Own Reward — But Money Makes the Mare Go

Again we urge that you remember our Exhibitors. What they have to show you and to tell you is well worth your while. Thoughtful men will remember that the fees they pay usually go far toward supporting the Convention.

And this year there is a well-founded rumor that some doctors who do visit the exhibits, and who sign the usual card for the Exhibitor, will be in the running for a reward — a real one that anyone would welcome.

DR. SAMUEL MERRITT

The Saga of a Physician from Maine

George O. Cummings, M. D., Portland, Maine

Most men are pygmies. Dr. Samuel Merritt was a big man. He was 6 feet 3 inches tall and weighed 340 pounds. When he died in Oakland, California, in 1890, he left an estate estimated at $2,000,000.00, from which in 1901, the Maine Medical School and Bowdoin College received the Merritt-Garcelon bequest of over $400,000.00. This was the largest gift that Bowdoin had received up to this time.

Dr. Merritt was born in the town of Harpswell, Maine, on March 30, 1822. His father was Stephen Merritt and his mother, Joanna Purington. Their homestead overlooked Cundy's Harbor, their land extending a mile and a half down onto Cundy's Point. The house, one of the oldest in the vicinity, was burned in 1913.

His older brother, Isaac, was born ten years earlier in 1812, and became a sea captain and later a merchant. He was not as tall as Dr. Merritt, but he weighed 370 pounds. His sister, Catherine, was born in 1814. She married Dr. Seward Garcelon, who graduated from the Maine Medical School in the class of 1830. He later practiced in Brunswick and taught in the same institution.

When Dr. Merritt was thirteen his father died, leaving Sam to manage the farm and to continue school. Probably through the influence of Dr. Garcelon he entered the Maine Medical School when he was eighteen and graduated in 1844. While he was a student he lived with his sister, and had his brother-in-law, Dr. Garcelon, as a preceptor. He later did some post-graduate work in New York City attending the lectures of Dr. Valentine Mott and Dr. Willard Parker.

He began to practice in Plymouth, Massachusetts, where he built up a thriving business in this and in the surrounding towns. He became noted as a surgeon. In 1849, he was called to attend an elderly lady who had a large tumor on her neck which he elected to remove under ether—the first time that this newly discovered drug had been used in this locality. (Ether was first used in the Massachusetts General Hospital on October 16, 1846.) The growth was removed with some difficulty and the patient made an uneventful recovery.

The patient was a neighbor of Daniel Webster, who was much attracted to the young physician. At this time the entire country was in the throes of excitement caused by the discovery of gold in California. One day Webster said to Merritt, "Go out there, young man, and behave yourself, and free as you are from family cares you will never regret it."

Once he had made the decision to go, he laid his plans with the shrewd foresight that was to mark his ways in later life. His brother, Captain Isaac Merritt, had always held his younger brother in the highest regard and sold him a small brig of 140 tons (about the tonnage of some small motor-driven mine sweepers) and advanced him $10,000.00 to purchase a cargo.

Armed with the following letter of introduction, he sailed from New York on November 25, 1849, laying his course around Cape Horn, stopping in Rio de Janeiro and Valparaiso to renew stores.

"Boston, September 21, 1849

Dr. Samuel Merritt of Plymouth, in this State, is a gentleman known to me personally and by reputation. He has been eminently successful in his practice as a physician, is of unblemished character as a man and a gentleman, and is worthy of personal as well as professional regard. Dr. Merritt thinks of going to California to practice his profession, and I very cordially recommend him to any gentleman in that quarter to whom I may be known."

Signed

Daniel Webster.

He sailed through the Golden Gate on May 5, 1850, to find smoke arising from the charred ruins of the $4,000,000 fire that had laid the thriving town of San Francisco waste the day before. Food and supplies of all sorts were needed. He had a ship load, sold all his merchandise at a handsome profit and then chartered his brig to sail to Humboldt Bay at $800.00 a month. Years later, in speaking of his arrival in San Francisco, Dr. Merritt said:

"One of my projects was to bring $500.00 worth of tacks. While on my way to Duxbury to get them I was called back to attend a man who had fallen from a house and broken his leg. I went back and set the limb, and was detained by one thing and another for several days, and finally did not get the tacks. If I had followed my first impulse, I could have sold the whole lot in San Francisco, on arrival, at $2.00 a package and made $5,000.00. The fire had swept away all buildings, and people were putting up shanties lined with cotton cloth, for which tacks were needed."

"At Rio I said to the Captain, 'We had better take on board thirty or forty tons of potatoes to replace some loss of cargo. There will be a great demand for potatoes in San Francisco.' He objected to littering up the decks, and thought it would not be a good

speculation, and we had better not bother with them. So we did not buy them. We had some sheep on board and a quantity of potatoes for feed. What remained of those potatoes were sold at an enormous profit on arrival. Those two mistakes netted me a serious loss."

"When we were ready to sail the vessel needed settling down at the bow, so I bought 100 kegs of nails, which I sold at a large profit. When I arrived in San Francisco I had a little of everything from a house to a tin pan. The house I sold to go to Oakland, and it was rafted over there."

1850 saw the addition of 36,000 people to the population of San Francisco and at one time that year some 800 ships lay in her harbor; some waiting to discharge cargo, for wharfs were few and primitive and there were no warehouses, and others had been deserted by their crews who had flocked to the gold fields. Cholera was epidemic and the good doctor had all that he could do both among the ships in the harbor and the population on shore.

Prices of all sorts were excessively high. A professional visit might cost $25.00 and $100.00 was occasionally paid for a prescription. The following year a second great fire laid the city waste, and Dr. Merritt had to move his office. He continued to practice until about 1859, but was becoming more and more interested in business.

In the winter of 1850-51, he was seized with the idea that ice could be sold in San Francisco for large prices the following summer. He bought a small brig, the G. W. Kendall, fitted it out with ice harvesting equipment as well as beads, calicos and mirrors to trade with the Indians in Puget Sound. Three months passed before the Kendall returned with the news that ice did not freeze in Puget Sound. The Captain, however, had had his crew cut timber along the shore suitable for piling and had traded his beads and calico for furs. Piling was in great demand in San Francisco and the good doctor cleaned up.

The brig remained in the Puget Sound lumber trade and established the first wharf and warehouse in this area near the present site of Olympia, Washington, and pioneered the establishment of the enormous lumber trade of the Northwest.

When others began to get into the Puget Sound trade, it became less profitable. In 1854, he sent his brig to Australia with freight and passengers. He hoped to bring back a cargo of coal, but as the ship was small and the loading facilities poor, his captain put in at Tahiti and brought back 500,000 oranges which he sold at $55.00 a thousand. The brig was finally sold at Callao for $5,500.00, more than twice the price he paid for her.

In May, 1853, he returned to Maine to visit his mother who had remarried a Captain Torrey. He ordered two barks built at Bath especially designed to carry lumber. These were put into the Puget Sound lumber trade.

On the death of his brother in 1862, Dr. Merritt again returned east and had the ship, Deacon, of 432 tons built, as well as the Vidette, 616 tons, and the Oakland, 534 tons, on similar lines. He later built the Live Yankee and the Sam Merritt.

Dr. Merritt had been a member of the Vigilance Committee in 1851 and later became the treasurer of the "Association for the Protection of Property and the Maintenance of Order." He described how he was called to see a sick patient on board a ship. That same night there was a robbery on board an Australian brig. As he was returning at midnight, he noticed a man who was acting strangely and trying to keep concealed. This individual, who proved to be one of the robbers, was apprehended by the Vigilance Committee and hung.

In the reorganization of the government of San Francisco, the doctor was the Chairman of the Finance Committee.

In 1861 he organized the California Mutual Marine Insurance Company.

In the early eighteen sixties he made his home in Oakland, where he had established a mill and lumber yard and owned a great amount of land. He built a number of residences, a business block, and a hotel. He was interested in beautifying the town and was instrumental in having a tide water creek dammed up to make Lake Merritt, a body of water about three miles in circumference, which is still one of the beauty spots of Oakland. He was one of the leaders in establishing the Mountain View Cemetery and also found time to aid in the organization of the Oakland Savings Bank. In 1867 he became mayor of Oakland and was president of the Library Association which established the Oakland Free Library. During his term as mayor, Tenniscal Creek was dammed to make Lake Chalot with a capacity of 200,000,000 gallons as a water supply. He was also successful in having Oakland made the terminus of the Central Pacific Railroad. Dr. Merritt played a leading part in the founding of the University of California and was a member of the first board of Regents.

In 1878 he designed and built the schooner-yacht, Casco. She was over ninety feet in length and when cruising carried a captain, cook and crew of four. She was very fast, having logged sixteen knots. In her, with a party of eight, he sailed to the Hawaiian Islands where he met the king, Kalakana, and then sailed to Tahiti in the Marquesas.

This yacht was chartered to Robert Louis Stevenson in 1888 and in her he sailed to the South Seas returning to the Hawaiian Islands seven months later.

Dr. Merritt died in Oakland on August 17, 1890, at the age of sixty-eight.

He left an estate valued at over $2,000,000.00 which was left in trust to his sister, Mrs. Garcelon, on the condition that she should follow his instructions for its disposal at her death. From these funds the Samuel Merritt Hospital in Oakland was constructed in 1907-08 and opened on January 26, 1909, and the Merritt-Garcelon Bequest came to the Maine Medical School and Bowdoin College.

Oakland now has a population of over 300,000 persons. *The American Medical Journal* for May 12, 1951, states that the hospital has 187 beds and 50 bassinettes. In 1950 it had 10,565 admissions and 1,947 births. It was accredited by the American College of Surgeons and was approved for fellowships and residencies.

The funds from the Merritt-Garcelon Bequest were received in 1901 and were divided equally between the Medical School and College. When the Medical School closed its doors in 1920, the Supreme Judicial Court of Maine decreed in 1922 that the part of the income formerly used for the Medical School be used for "the payment of medical scholarships and fellowships to worthy and struggling young men, intending to study and practice medicine, and who, in the judgment of the trustee, shall be in need of pecuniary aid to enable them to complete their medical education, a part of said income to be so applied and paid to undergraduates of Bowdoin College taking the premedical courses referred to in the bill, and the balance thereof, which shall be the larger part thereof, to be so applied and paid to students in medical schools approved by the trustee, but the amount to be so applied and paid to students in medical schools may, at any time, in the discretion of the trustee, include all of so much of the income of the fund as is above-referred to, to the exclusion for the time being of undergraduates of Bowdoin College, such disposition of said income being adjudged to be within the general scope of the intention of the donor of the fund; and that the trustee is at liberty to apply to the court for further instruction, from time to time, as the conditions of medical education in the State of Maine or other circumstances may seem to make such application advisable."

In the last thirty years from the interest from this fund there have been awarded medical scholarships totaling $218,994, or approximately $7,300 a year. The number of awards has averaged approximately 32 a year and between the years 1922 and 1943, 299 young men have received help. Many recipients have been on the list for all four of the years they have been in medical school. In 1950, $4,200 was applied to scholarships for undergraduates taking the premedical course.

ANECDOTES FROM THE ST. JOHN RIVER VALLEY*

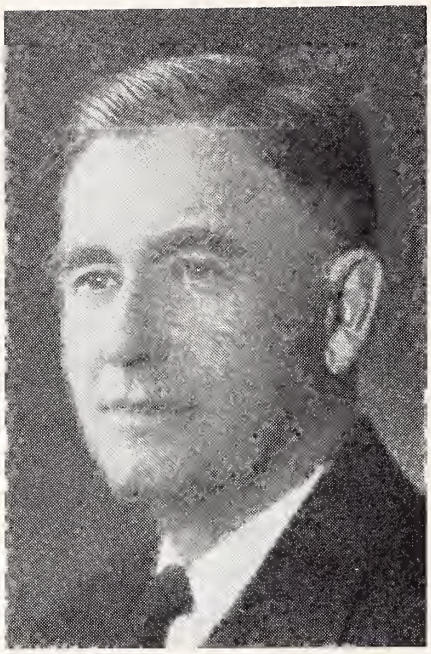
Armand Albert, M. D., Van Buren, Maine

At the turn of the Century, medical practice along the St. John River Valley was anything but easy. Roads were impassable after heavy rains or during the months of Spring and Fall. In winter, travel was entirely by horse drawn sleighs, and distances traveled were great.

My Dad (Louis N. Albert) tells me that he often slept in the sleigh while the driver was whipping poor Dobbin. One night as he was comfortably dozing and catching up on his sleep, the horse suddenly stopped and Dad woke up. He looked around, and seeing no sign of any habitation, he asked the driver what he was stopping for. "'Well," said the man, "We've arrived, the house is right down there below this 15-foot drift." Dad grabbed a medical bag in each hand and stepped out of the sleigh. Now the kids of the house had been sliding down that drift to the door and the incline was very icy. Willy-nilly, Dad followed in their tracks and gathering momentum, his feet struck the door open and he stopped right alongside the patient's bed. She was so surprised by this unceremonious entry that she delivered within the hour.

A doctor, in those days, was usually called 24 to 36 hours before the patient was ripe and the poor doctor had to sit down in an uncomfortable chair and grin and wait. On one such occasion, Dad was waiting and the patient was walking to and fro, clad in a pubic length johnny, trying to drum up some pains. She was short and stout and was promenading vigorously, and as Dad says, she was a sight to behold. After a while she thought of something that she needed in the attic. An ordinary hand made ladder was the only means of reaching this attic, and as she laboriously climbed up, the ladder creaked. Dad watched her go up. She rummaged around a little, and having found what she wanted started down. The first rung couldn't stand her full weight, and it broke. She never stopped coming down till she hit the floor. Dad was on his way back home an hour later. Best oxytocic he ever saw.

* The St. John Valley is many miles from the Western Border of Maine. Daniel Webster and Lord Ashburton decreed that the eastern bank should be part of Maine. Dr. Albert and his father have practiced in the Valley for a long time. We thought that the episodes submitted by Dr. Albert would point up the changes which have occurred in this part of our State.



THE PRESIDENT'S MESSAGE

A hundred years is a long time. It is so long that the grandson of the first president of the Maine Medical Association does not remember his grandparent. Much of our knowledge of the early days of our Association and its individual members comes from the good records of the annual sessions which were preserved and published. As a matter of fact medical organization in Maine goes back 33 years more to the year of 1820 when Maine became a separate state. The Maine Medical Society which was established on that date met at intervals but left less adequate record and finally ceased to convene. The difficulties of travel must have constituted a serious handicap in holding meetings. Think of the time required to drive the short distance from Brunswick to Augusta.

The first half century of the Maine Medical Association was distinguished as a period of constructive endeavor in matters pertaining to the public health. The voice of the Association was often heard in the legislative halls of the state capital. The Association made yearly studies of the prevailing diseases in the state. Its members were responsible for the formation of the State Board of Health and were vitally concerned in the improvement of instruction at the Medical School of Maine and the establishment of the first general hospital in the state. This is admittedly an incomplete list of their efforts and achievements.

These early physicians were pioneers in more ways than one. They deserve the credit for the institution of public health regulations in our state which have brought benefit to all our citizens. To us, their successors, they have bequeathed an organization which had served them well and with suitable modifications continues to serve us. Medical societies provide us a medium for discussion of our problems and, once decisions are reached, the opinion of a group of physicians has more weight than that of an individual. We own the opportunity of constructive action as truly today as did the members of the Association a century ago. Let us continue our present program for improvement of medical care in Maine.

Eugene H. Drake, M. D.,

President, Maine Medical Association.

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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EDITORIAL SECTION

Lest We Forget

On the occasion of a hundredth birthday, personal references may be permitted. We would seem ungrateful and like sons of little grace and less affection if we failed to remember on this occasion our courageous forbears with warm thoughts of admiration and with words of kindness and honourable respect.

Just a little over a hundred years ago this month they gathered in Brunswick for a meeting of minds; a preliminary meeting, to consider the formation of a State Medical Organization. Let their names be recorded on the pages of our JOURNAL for all to read; Drs. Isaac Lincoln, Cyrus Briggs, James McKeen, Amos Nourse, A. J. Fuller, Israel Putnam, T. G. Stockbridge, H. H. Hill, John Benson, N. T. Palmer, Asher Ellis, John Mathews, Joseph W. Ellis, Cyrus Kendrick, Jr., George E. Brickett, John D. Lincoln, Alonzo Garcelon, J. W. Toward, R. W. Lawson, Abial Libby, J. F. Stanley, N. R. Boutelle, John Heartwell, Stephen Whitmore, Richard P. Jenness, C. W. Whitmore and G. S. Palmer.

They were proud citizens of a young Republic and residents of an even younger State in the new Union of States. They cherished the titles they had earned in the Democratic Processes of a free country and they assumed the responsibility, without grant from tyrant or parliament, of organizing the profession of medicine into a State Association, an association with noble object; "The object of this Association shall be the promotion of Medical Science, and the regulation of the practice of Medicine and Surgery in this State: and this organization shall be known by the name of the 'Maine Medical Association.' "

To achieve the purposes of the association, they labored faithfully, they travelled long distances to attend the annual meetings, at which they preached the doctrine that in union lay strength; they pressed for improved medical education and they petitioned successive legislatures for laws to protect the people from diseases and to promote public health.

The fruits of their labors surround us today. The strength which we have at this time, the advances we have made, the successes we have enjoyed, are, in a large measure, portions of the rich harvest we have gleaned from the good seed and faithful cultivation employed by our predecessors. The honored twenty-seven planted the seed, one hundred times twenty-seven zealous followers have cultivated the fruits. We do well to remember them and to conduct their association and our association with filial devotion.

In closing may we add a few words from the Presidential Address of Dr. George E. Brickett of Augusta, one of the founders, who said in Portland on June 12, 1883—"From that land far away they send Greetings to us today. I hear now the whispered voices of Tewksbury and Green saying, God bless you; go on with your good work, by and by you will join us where the Great Physician cures all ills."

In Memoriam

Allen, John Howard,	Cape Elizabeth
Beach, Sylvester J.,	Portland
Cartland, John E.,	Auburn
Crane, James W.,	Woodland
Elkins, Harry,	Augusta
Maddan, Martin C.,	Old Town
Morrison, Charles C.,	Bar Harbor
Norris, Lester F.,	Madison
Rand, George H.,	Livermore Falls
Randall, Ray N.,	Lewiston
Small, Amos E.,	Bangor
Wiley, Arthur G.,	Bar Mills

COMMITTEE REPORTS

STANDING COMMITTEES

Legislative Committee

Your Legislative Committee submits this report of its activities at the last session of the Legislature. Following the general policy of the Maine Medical Association of the last several Legislatures, your Committee sought and obtained authorization for support of some constructive measures that were presented.

A bill to obtain an appropriation for the establishment and operation of a training course for Attendant Nurses was instituted by the Maine Medical Association through the efforts of Dr. Clyde Swett in the Legislature of 1949. This year the Maine Hospital Association, Maine State Nurses' Association, the State Department of Education, and the Maine Medical Association renewed their efforts to accomplish this worthwhile project, and, in the closing hours of the Legislature, about one-half the requested appropriation was adopted.

The State Hospital at Augusta has been going along for years overcrowded and understaffed. This year your Committee appeared in favor of increased appropriations for operating expenses for that Hospital. We also favored a substantial appropriation for capital construction. There was substantial success in the results.

The process for commitment of persons to the State Hospital has been under discussion for some time. The medical profession has long recognized that the term "insanity" has no medical definition and has connotations to the public which are detrimental to those unfortunate persons who are "committed" as "insane." "Mental illness" is a far more accurate term.

A bill was passed in 1951 making many humane changes in this law, but it was hastily drawn and amended, and was found unconstitutional. Another rather hastily drawn bill was offered at the 1953 Legislature, which was admittedly faulty.

Your Committee refused to support the bill, as drawn, and strongly recommends a more careful approach to this matter. We believe that a joint committee from the Maine Medical Association, the Maine State Bar Association, and representatives of the Department of Institutional Service should be formed and should make a study of the changes which are desirable and the methods by which those changes can be brought about. Then a bill should be drawn embodying the thinking of these three different groups so that the result will be medically sound, practical in operation, and legally valid.

This work should be done in the interim between legislative sessions and should allow ample time for unhurried study.

Your Committee again supported a request for an increased appropriation for State Aid to hospitals. This is a matter of real concern and major effort to the Maine Hospital Association but it received the sympathetic support of your Committee and some measure of success was attained.

A bill was offered to the Legislature to certify psychologists. Dr. Sleeper, Superintendent of the Augusta State Hospital, recommended the bill as one that would tend to raise the standards of psychologists while in no way encroaching on or affecting the practice of medicine. According to the best information which the Committee could obtain the bill was harmless and the Committee took no position concerning it.

The chiropractors proposed several changes in their legislation. One bill proposed an increase in the time for pre-professional education, as well as in the length of chiropractic education. They also asked to increase their fees for the privilege of taking the chiropractic examination. These changes, your Committee felt, were harmless.

Three other bills presented for the chiropractors—one to require that certain health certificates signed by chiropractors be accepted by certain officials; one to allow student chiropractors, while waiting to take their State Board, to practice under the supervision of a licensed chiropractor; and one to authorize the use and payment of chiropractors under Workmen's Compensation—were all opposed by your Committee and were all defeated.

Paul D. Giddings, M. D.,
Chairman.

Continued on page 179

PROGRAM

MAINE MEDICAL ASSOCIATION

CENTENNIAL SESSION

Portland, Maine

June 21 - 24, 1953

C. Lawrence Holt, M. D.,
General Chairman

HEADQUARTERS — THE EASTLAND HOTEL

CENTENNIAL SESSION GUEST SPEAKERS

Scientific Lecture Series

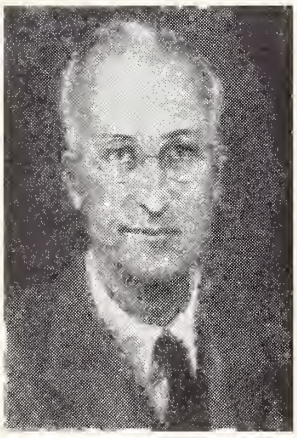
KENNETH J. WELCH, M. D., BOSTON

Dr. Welch, a native of Portland, Maine, was graduated from Harvard Medical School in 1943.

He is Attending Surgeon at Children's Medical Center, Boston, Assistant in Surgery at Harvard Medical School and Instructor in Surgery at Tufts College Medical School.

His subject is *Parenteral Nutrition — Problems and Practices in Pediatric Surgery.*

DANA W. ATCHLEY, M. D., NEW YORK CITY



Psychosomatic Aspects of Medicine is the subject of Dr. Atchley's address. Dr. Atchley, who spent his childhood days in Farmington and Bath, is Professor of Clinical Medicine at Columbia University College of Physicians and Surgeons. He was graduated from Johns Hopkins University School of Medicine in 1915.

An article by Dr. Atchley entitled "Family Doctor — 1900," which was published in The New Yorker, March 31, 1951, gives his recollections of his family physician, Dr. Fuller of Bath; who was a member of a family of "family physicians."

FRANK R. OBER, M. D., BOSTON

Dr. Ober, who was born in Mt. Desert, Maine, and practiced in Northeast Harbor from 1906 to 1913, was graduated from Tufts College in 1905. He received the Honorary Degree of Doctor of Science from Tufts in 1943 and from the University of Vermont in 1948. Long associated with the Children's Hospital and New England Peabody Home for Crippled Children in Boston and Harvard Medical School he now holds the following titles: Surgeon-in-Chief, New England Peabody Home for Crippled Children, Emeritus, Chief Orthopedic Department Boston Children's Hospital, Emeritus, and John B. and Buckminster Brown Clinical Professor, Emeritus, Harvard Medical School.

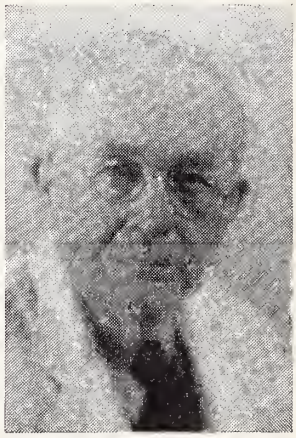
His subject will be *Lame Backs.*

CORNELIUS P. RHOADS, M. D., NEW YORK CITY

Dr. Rhoads was graduated from Bowdoin College in 1920 and received the honorary degree of Doctor of Science from that institution in 1944. He received his medical degree from Harvard Medical School in 1924. He has served as Director of Memorial Hospital, New York City, and Professor of Pathology at Cornell Medical School since 1940.

His subject will be *Advances in the Surgical Control of Cancer.*

GEORGE W. HOLMES, M. D., BELFAST



Dr. Holmes, Clinical Professor of Roentgenology, Emeritus, Harvard Medical School, was born in Waldo, Maine, and is a member of the Waldo County Medical Society. He was graduated from Tufts College Medical School in 1906 and was Radiologist at the Massachusetts General Hospital from 1911 to 1946. Dr. Holmes subject will be *Obstructing Lesions of the Bronchi.*

JOHN H. POWERS, M. D., COOPERSTOWN, NEW YORK

The Hazards of Rural Living is the subject chosen by Dr. Powers.

He was graduated from Bates College in 1919, received a B. A. Oxon from Oxford University, which he attended as a Rhodes Scholar, in 1923, and his M. D. from Harvard Medical School in 1925. Dr. Powers is Associate Surgeon at The Mary Imogene Bassett Hospital, Cooperstown, N. Y., and Assistant Clinical Professor of Surgery at Columbia University College of Physicians and Surgeons. He was born in Gardiner, Maine.

CHESTER M. JONES, M. D., BOSTON

An address on *Difficulties in Intestinal Absorption,* will be presented by Dr. Jones, Clinical Professor of Medicine, Harvard Medical School. Dr. Jones, a native of Portland, Maine, was graduated from Harvard Medical School in 1920.

EDWIN T. WYMAN, M. D., BOSTON

Dr. Wyman, who was born in Sebec, Maine, will present a paper on *Progress in Pediatrics.*

He was graduated from Tufts College Medical School in 1911, and is Visiting Physician at Children's Hospital and Infants' Hospital, Boston.

EDWARD F. STANTON, M. D., NEW YORK CITY

An address on *The Responsibilities Facing the Medical Profession Today,* will be presented by Dr. Stanton, who was graduated from the University of Maine in 1926 and from Cornell Medical College in 1935.

He is Associate Attending Gynecologist at the Hospital for Special Surgery, New York City, Associate Gynecologist and Obstetrician at the Lenox Hill Hospital, New York City, Assistant Attending Obstetrician and Gynecologist at the New York Hospital, and a member of Cornell Medical College Staff, Department of Obstetrics and Gynecology.

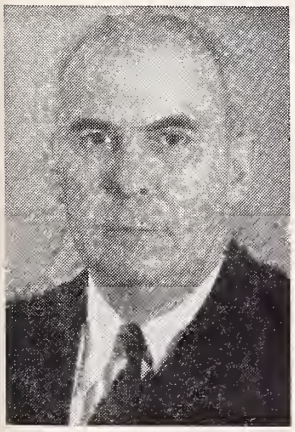
During World War II he served with the Lenox Hill Hospital Unit. He was born in Sterling, Connecticut.

JAMES L. WILSON, M. D., ANN ARBOR, MICHIGAN

Dr. Wilson, Professor of Pediatrics and Communicable Diseases at the University of Michigan Medical School, will present an address entitled *Respiratory Obstruction in Infancy.*

He attended Colby College and was graduated from Harvard Medical School in 1926.

ARTHUR H. DEARING, REAR ADMIRAL, MC, USN, SAN FRANCISCO



Dr. Dearing, who was born in Scarboro, Maine, has had a distinguished and colorful career in the USN. He was graduated from Harvard Medical School in 1917 and in that same year was appointed Ass't. Surg. in the Medical Corps of the U. S. Naval Reserve Force, with the rank of Lt. (jg), and attained the rank of Rear Admiral in July, 1942. At the present time he is Inspector of Naval Medical Activities, Pacific Coast, with Headquarters at Treasure Island, San Francisco, California.

Dr. Dearing will present an address on *The Practice of Medicine in the Naval Service.*

ALTON S. POPE, M. D., BOSTON

A native of Manchester, Maine, Dr. Pope was graduated from Bowdoin College and was a Health Officer in Waterville at one time. He was graduated from Tufts College Medical School in 1925. Dr. Pope is a member of the Board of Directors of the Massachusetts TB and Health League; Instructor in Public Health Practice, Harvard School of Public Health; Director, Division of Tuberculosis and Sanatoria and Deputy Health Commissioner, Massachusetts Department of Public Health. He is a former President of the National Tuberculosis Association, and a well known author in the tuberculosis field.

Determining the Factors in the Course of Tuberculosis is the subject of his address.

Dinner Meeting and Annual Banquet

HARRIS P. MOSHER, M. D., MARBLEHEAD, MASSACHUSETTS

You all know by reputation, if not personally, the guest speaker for the Dinner Meeting, Tuesday evening, June 23rd — Dr. Mosher.

Dr. Mosher, who was born in Woodfords, Maine, and graduated from Harvard in 1896 is Walter Augustus Lecompte Professor Otolaryngology and Professor Laryngology, Emeritus, Harvard Medical School.

His subject will be *My Creed.*

ERNEST B. HOWARD, M. D., CHICAGO

Guest Speaker at the Annual Banquet, Wednesday evening, June 24th, will be the Assistant Secretary of the American Medical Association, Dr. Ernest B. Howard.

A. M. A. Serves the Profession is the title of Dr. Howard's address.

Registration

Registration Headquarters throughout the Session will be at The Eastland Hotel.

Sunday, June 21—12.00 Noon to 5.00 P. M.

Monday, June 22—8.30 A. M. to 5.30 P. M.

Tuesday, June 23—8.30 A. M. to 5.30 P. M.

Wednesday, June 24—8.30 A. M. to 5.30 P. M.

Information, tickets for clam bake, dinner meeting, annual banquet, and Bowdoin Medical School reunion luncheon will be available here.

Sunday, June 21, 1953

12.00 Noon

Registration

2.00 P. M.

First Meeting of the House of Delegates — The Eastland Hotel — Colonial Room

Norman H. Nickerson, M. D., President-elect, Presiding

8.00 P. M.

City Hall Auditorium (Open to the public)

Eugene H. Drake, M. D., President, Maine Medical Association, Presiding

Music—John E. Fay, Municipal Organist

Invocation—Rev. Frederick H. Thompson

Welcome—Edward T. Gignoux, City Councilman

Introduction of Visitors

Music—Portland Men's Singing Club

Address by Governor Burton M. Cross

The State of Maine and the Medical Profession

Music—Sylvia S. Harwood, Violinist

Address by Thomas A. Foster, M. D.

Historical Sketch of the Maine Medical Association

Monday, June 22, 1953

9.30-11.30 A. M.

Maine Eye and Ear Infirmary

Eye Clinic — Conducted by the Maine Ophthalmological Section

9.30 A. M.

The Eastland Hotel

Second Meeting of the House of Delegates—The Eastland Hotel—Colonial Room

Norman H. Nickerson, M. D., President-elect, Presiding

11.45 A. M.-12.15 P. M.

Visit Technical Exhibits

12.30 P. M.

Luncheon

Luncheon Meeting: Maine Ophthalmological Section — The Eastland Hotel — Colonial Room

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2.00-4.15 P. M.

SCIENTIFIC LECTURE SERIES

The Eastland Hotel Ballroom

Chairman, **William V. Cox, M. D.,** Auburn

2.00 P. M.

Parenteral Nutrition — Problems and Practices in Pediatric Surgery

Kenneth J. Welch, M. D., Attending Surgeon, Children's Medical Center, Boston — Assistant in Surgery, Harvard Medical School

2.30 P. M.

Psychosomatic Aspects of Medicine

Dana W. Atchley, M. D., Professor Clinical Medicine, Columbia University College of Physicians and Surgeons

3.00-3.15 P. M.

Intermission

3.15 P. M.

Lame Backs

Frank R. Ober, M. D., John B. Buckminster Brown, Clinical Professor Orthopedic Surgery, Emeritus, Harvard Medical School

3.45 P. M.

Advances in the Surgical Control of Cancer

Cornelius P. Rhoads, M. D., Professor of Pathology, Cornell University School of Medicine — Director, Memorial Hospital, New York City

4.15 P. M.

Election of President-elect

Introduction of Visiting Delegates

4.30-5.30 P. M.

Visit Technical Exhibits

6.30 P. M.

Clam Bake (Doctors, wives, and children invited)

Tuesday, June 23, 1953

9.30-11.45 A. M.

SCIENTIFIC CLINIC SERIES

Maine General Hospital

J. Robert Downing, M. D., Kennebunk, Presiding

9.30 A. M.

Vascular Disease in Diabetes

Elton R. Blaisdell, M. D., Portland

9.50 A. M.

An Unusual Surgical Complication Following Subtotal Gastric Resection

William F. Mahaney, M. D., Saco

10.10 A. M.

Carcinoma of the Breast with Extensive Metastases

Sidney R. Branson, M. D., South Windham

10.45 A. M.

Clinical Pathological Conference

Conducted by **Chester M. Jones, M. D.,** Boston

Mercy Hospital

Ralph C. Stuart, M. D., Guilford, Presiding

9.30 A. M.

Kaposi's Varicelliform Eruption

Harvey B. Ansell, M. D., Portland

9.50 A. M.

Orthopedic Case

Leo J. McDermott, M. D., Portland

10.10 A. M.

Acute Leukemia Simulating Acute Appendicitis

Leandre R. Charest, M. D., Biddeford

10.45 A. M.

Endometriosis in Pregnancy

E. Allan McLean, M. D., Portland

11.05 A. M.

Obstetrical Case

Charles R. Geer, M. D., Portland

11.25 A. M.

Adenomatosis of the Lung

William A. Ventimiglia, M. D., Portland

11.45 A. M.-12.30 P. M.

Visit Technical Exhibits

12.00 Noon

Luncheon Meeting: Bowdoin Medical School Reunion Luncheon — The Eastland Hotel Colonial Room

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12.30 P. M.

Luncheon

2.00-4.15 P. M.

SCIENTIFIC LECTURE SERIES

The Eastland Hotel Ballroom

Chairman, **Langdon T. Thaxter, M. D.,** Portland

2.00 P. M.

Obstructing Lesions of the Bronchi

George W. Holmes, M. D., Clinical Professor Roentgenology, Emeritus, Harvard Medical School

2.30 P. M.

The Hazards of Rural Living

John H. Powers, M. D., Associate Surgeon, The Mary Imogene Bassett Hospital — Assistant Clinical Professor of Surgery, Columbia University College of Physicians and Surgeons

3.00-3.15 P. M.

Intermission

3.15 P. M.

Difficulties in Intestinal Absorption

Chester M. Jones, M. D., Clinical Professor of Medicine, Harvard Medical School

3.45 P. M.

The Problems and Responsibilities Facing the Medical Profession Today

Edward F. Stanton, M. D., Cornell Medical College Staff, Department of Obstetrics and Gynecology

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4.15-5.30 P. M.

Visit Technical Exhibits

5.30 P. M.

Cocktail Party—Cumberland Club

Hosts: Portland Medical Club

6.30 P. M.

DINNER

The Eastland Hotel Ballroom

Guest Speakers:

Harris P. Mosher, M. D., Walter Augustus Lecompte, Professor Otolaryngology and Professor Laryngology, Emeritus, Harvard Medical School

Subject: My Creed

Fred J. Pritham, M. D., Greenville Junction, Maine

Subject: Memoirs of a Country Doctor

Group Singing

Wednesday, June 24, 1953

9.30-11.45 A. M.

SCIENTIFIC CLINIC SERIES

MAINE GENERAL HOSPITAL

J. Robert Downing, M. D., Kennebunk, Presiding

9.30 A. M.

PSYCHIATRIC CASE

Nicholas Fish, M. D., Portland

9.50 A. M.

NEUROSURGICAL CASE

George L. Maltby, M. D., Portland

10.10 A. M.

SARCOMA OF THE NASO-PHARYNX

Charles W. Eastman, M. D., Livermore Falls

10.45 A. M.

SECRETORY OTITIS MEDIA

George O. Cummings, Jr., M. D., Portland

11.05 A. M.

WILSON'S DISEASE

John J. Pearson, M. D., Old Town

11.25 A. M.

RHEUMATOID ARTHRITIS SIMULATING RHEUMATIC FEVER

Charles W. Steele, M. D., Lewiston

MERCY HOSPITAL

Ralph C. Stuart, M. D., Guilford, Presiding

9.30 A. M.

DIAGNOSTIC PROBLEM

Henry A. Hudson, M. D., Bridgton

9.50 A. M.

JAUNDICE COMPLICATING PREGNANCY

Philip B. Chase, M. D., Farmington

10.10 A. M.

RECONSTRUCTIVE PLASTIC SURGERY

Burton L. Olmsted, M. D., Portland

10.45 A. M.

CLINICAL PATHOLOGICAL CONFERENCE

11.45 A. M.-12.30 P. M.

Visit Technical Exhibits

12.30 P. M.

LUNCHEON

LUNCHEON MEETING—The Eastland Hotel—Colonial Room

Indoctrination Meeting for New Members

Speaker: **Ernest B. Howard, M. D.**, Assistant Secretary, American Medical Association

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2.00-4.15 P. M.

SCIENTIFIC LECTURE SERIES

The Eastland Hotel Ballroom

Chairman, **James A. MacDougall, M. D.**, Rumford

2.00 P. M.

THE PRACTICE OF MEDICINE IN THE NAVAL SERVICE

Admiral Arthur H. Dearing, M. C., U. S. N., Inspector, Naval Medical Activities, Western Sea Frontier, San Francisco, California

2.30 P. M.

PROGRESS IN PEDIATRICS

Edwin T. Wyman, M. D., Physician, Children's Hospital and Infants' Hospital, Boston

3.00-3.15 P. M.

Intermission

3.15 P. M.

RESPIRATORY OBSTRUCTION IN INFANCY

James L. Wilson, M. D., Professor of Pediatrics and Communicable Diseases, University of Michigan School of Medicine

3.45 P. M.

DETERMINING THE FACTORS IN THE COURSE OF TUBERCULOSIS

Alton S. Pope, M. D., Deputy Commissioner, Massachusetts Department of Public Health, Division of Tuberculosis and Sanatoria (Sponsored by the Maine Tuberculosis Association)

6.30 P. M.

ANNUAL BANQUET

The Eastland Hotel Ballroom

Presentation of medals and awards

President's Address—**Eugene H. Drake, M. D.**

Guest Speakers:

Ernest B. Howard, M. D., Assistant Secretary, American Medical Association

Subject: A. M. A. SERVES THE PROFESSION

Mrs. Leo J. Schaeffer, President-elect, Woman's Auxiliary to the American Medical Association

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SECTION MEETING

Monday, June 22, 1953

2.00 P. M.

MAINE OPHTHALMOLOGICAL SECTION—The Eastland Hotel—Colonial Room

Speaker: **Paul A. Chandler, M. D.**, Boston, Massachusetts

Subject: NEWER CONCEPTS IN GLAUCOMA

CENTENNIAL COMMITTEE

General Committee and Committee Chairmen

C. Lawrence Holt, M. D., Portland, *General Chairman*

Merrill S. F. Greene, M. D., Lewiston, *Publicity*

Thomas A. Foster, M. D., Portland, *Historical Research and Exhibit*

Carl E. Richards, M. D., Alfred, *Scientific Exhibit*

Philip P. Thompson, Jr., M. D., Portland, *Entertainment*

Stephen A. Cobb, M. D., Sanford, *Technical Exhibit*

Warren E. Kershner, M. D., Bath

Frederick T. Hill, M. D., Waterville

James A. MacDougall, M. D., Rumford

William V. Cox, M. D., Auburn

Allan Woodcock, M. D., Bangor

Richard C. Wadsworth, M. D., Bangor

Honorary Committee

Delbert M. Stewart, M. D., South Paris
Edwin W. Gehring, M. D., Portland
Willard H. Bunker, M. D., York Harbor
George L. Pratt, M. D., Farmington
P. L. B. Ebbett, M. D., Houlton
Carl H. Stevens, M. D., Belfast
Oscar F. Larson, M. D., Machias
R. V. N. Bliss, M. D., Blue Hill
Adam P. Leighton, M. D., Portland
John O. Piper, M. D., Waterville
Forrest B. Ames, M. D., Bangor
Ralph A. Goodwin, M. D., Auburn
Foster C. Small, M. D., Belfast
C. Harold Jameson, M. D., Rockland

Honorary Medals

The Association's Honorary Medals will be presented at the Annual Banquet, Wednesday evening, June 24th.

Fifty-Year Lapel Pins to the following members who were graduated from Medical School in 1903:

Aroostook County Medical Society
P. L. B. Ebbett, M. D., Houlton
McGill University, Faculty of Medicine, Montreal, 1903

Cumberland County Medical Society
Louis L. Hills, M. D., Westbrook
Bowdoin Medical School, 1903

Kennebec County Medical Society
Charles E. G. Shannon, M. D., Waterville
Jefferson Medical College, 1902

Lincoln-Sagadahoc County Medical Society
Warren E. Kershner, M. D., Bath
University of Maryland School of Medicine, 1903

Oxford County Medical Society
Henry Pearson, M. D., Brownfield
Cornell University Medical College, 1903

Fifty-Five-Year Bars will be presented to the following members who received their Fifty-Year Medals in June, 1948:

Cumberland County Medical Society
Elbridge G. A. Stetson, M. D., Brunswick

Knox County Medical Society
Walter D. Hall, M. D., Rockland

Penobscot County Medical Society
Watson S. Purinton, M. D., Bangor
Frank D. Weymouth, M. D., Brewer

Washington County Medical Society
Walter J. Gilbert, M. D., Calais

Out-of-State Delegates

New Hampshire Medical Society
Deering G. Smith, M. D., Nashua
Samuel H. King, M. D., Rochester

Vermont State Medical Society
John H. Woodruff, M. D., Barre

Massachusetts Medical Society
Frank R. Ober, M. D., Boston
Edwin T. Wyman, M. D., Boston

Rhode Island Medical Society
Alex M. Burgess, M. D., Providence
Herbert E. Harris, M. D., Providence

Connecticut State Medical Society
James D. Corridon, M. D., South Norwalk
Stanley B. Weld, M. D., Hartford

New Brunswick Medical Society
F. W. Stevenson, M. D., St. John, N. B.

PROGRAM

Woman's Auxiliary

to the

Maine Medical Association

Fifth Annual Convention, June 21-24, 1953

Portland, Maine

Headquarters—The Eastland Hotel

Mrs. Philip B. Chase, Farmington
President, 1952-1953

INFORMATION

Headquarters for registration, information, purchase of tickets, reservations for entertainment, and all other women's activities will be in the lobby of the Eastland Hotel. For your convenience, there will be a Hospitality Center in the Sun Parlor on the top floor. This will be a pleasant place to meet your friends. Information, room service, and facilities for bridge will be available, and plans for golf at the Portland Country Club can be made here.

Sunday, June 21, 1953

12.00 Noon

Registration (Registration throughout the Session will be at The Eastland Hotel—Hours to be announced)

8.00 P. M.

City Hall Auditorium (See Maine Medical Association Program)

Monday, June 22, 1953

10.30 A. M.

Visit to Historical Tate House in Stroudwater

12.30 P. M.

Executive Board Luncheon

2.30 P. M.

Mayfair Room, Lafayette Hotel

Fashion Show Followed by Tea "to get acquainted with the Executive Board." (All wives of physicians are invited to attend)

6.30 P. M.

Clam Bake (Doctors, wives, and children invited)

Tuesday, June 23, 1953

10.00 A. M.

Tour of Gardens in Hidden Court, Cape Elizabeth, and Heron House, Falmouth Foreside

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12.30 P. M.

Portland Country Club

Annual Meeting Luncheon in honor of Past Presidents of the Woman's Auxiliary to the Maine Medical Association and Out-of-State Guests. Installation of Officers. (All wives of physicians are invited to attend)

Speaker: **Mrs. Leo J. Schaeffer,** President of the Woman's Auxiliary to the American Medical Association

5.30 P. M.

Cocktail Party—Cumberland Club

(For members of the Maine Medical Association, wives and guests)

Hosts: Portland Medical Club

6.30 P. M.

Dinner Meeting—Maine Medical Association

Wednesday, June 24, 1953

10.00 A. M.

Boat Ride on Casco Bay

12.30 P. M.

Out-of-Town Luncheon—Homewood Inn, Yarmouth

4.00-5.00 P. M.

Post-Convention Executive Board Meeting With New Officers

6.30 P. M.

Annual Banquet—Maine Medical Association

CONVENTION COMMITTEE CHAIRMEN — 1953

General Chairmen
Mrs. Robert L. Bidwell
Mrs. Ralf Martin

Registration
Mrs. E. Allan McLean

Hospitality
Mrs. William C. Burrage

Reservations
Mrs. Ralph Heifetz

Parliamentarian
Mrs. Benjamin Zolov

Finance
Mrs. Albert Aranson
Mrs. Harold E. Libby

Transportation
Mrs. Nicholas Fish

Tea and Fashion Show — Clerical
Mrs. Thomas A. Martin

Annual Meeting Luncheon
Mrs. Philip P. Thompson, Jr.

Homewood Inn Luncheon
Mrs. Edward G. Asherman

Tours
Mrs. Franklin F. Ferguson

Press and Publicity
Mrs. Eugene P. McManamy

Historical
Mrs. Albert W. Moulton

Telephone Committee
Mrs. Albert C. Johnson

OFFICIAL DELEGATES — 1953

County Medical Societies

FIRST DISTRICT

Cumberland County Medical Society

Delegates (2 years):
Daniel F. Hanley, M. D., 58 Federal St., Brunswick
George I. Geer, Jr., M. D., 690 Congress St., Portland
Ralph Heifetz, M. D., 173 State St., Portland
Sidney R. Branson, M. D., 37 Main St., South Windham

(1 year):
John R. Lincoln, M. D., 22 Arsenal St., Portland
Bernerd H. Burbank, M. D., 275 Cottage Rd., South Portland
Alvin A. Morrison, M. D., 57 Deering St., Portland
Emerson H. Drake, M. D., 29 Deering St., Portland

Alternates (2 years):
Donald G. Wight, M. D., 30 Mitchell Rd., South Portland
Hermann G. Derry, M. D., 690 Congress St., Portland
William A. Ventimiglia, M. D., 22 Deering St., Portland
Philip P. Thompson, Jr., M. D., 704 Congress St., Portland

(1 year):
Henry M. Tabachnick, M. D., 110 Park Ave., Portland
Leo J. McDermott, M. D., 151 Vaughan St., Portland
Ronald A. Bettle, M. D., 32 Federal St., Brunswick
William C. Burrage, M. D., 57 Deering St., Portland

York County Medical Society

Delegates:
James H. Macdonald, M. D., 103 Main St., Kennebunk
Paul S. Hill, Jr., M. D., 176 Main St., Saco
Edward W. Holland, M. D., 28 Winter St., Sanford

Alternates:
Kenneth J. Cuneo, M. D., 31 Summer St., Kennebunk
Maurice Ross, M. D., 372 Main St., Saco
Alexander W. Magocsi, M. D., York

SECOND DISTRICT

Androscoggin County Medical Society

Delegates:
Daniel F. D. Russell, M. D., Leeds
Charles W. Steele, M. D., 472 Main St., Lewiston
Alcid F. DuMais, M. D., 125 College St., Lewiston
Blinn W. Russell, M. D., 98 Pine St., Lewiston

Alternates:
Paul R. Chevalier, M. D., 355 Pine St., Lewiston
Rudolph Haas, M. D., 488 Main St., Lewiston

Franklin County Medical Society

Delegate:
Paul E. Floyd, M. D., 2 Middle St., Farmington

Alternate:
Philip B. Chase, M. D., 36 Main St., Farmington

Oxford County Medical Society

Delegates (1 year):
Albert P. Royal, M. D., 82 Maine Ave., Rumford

(2 years):
Pierre B. Aucoin, M. D., 77 Rumford Ave., Rumford

Alternates:
James A. MacDougall, M. D., 303 Penobscot St., Rumford
Harry L. Harper, M. D., South Paris

THIRD DISTRICT

Knox County Medical Society

Delegates:
Robert L. Allen, M. D., 37 Spring St., Rockland
William A. McLellan, M. D., 2 Union St., Camden

Alternates:
Howard L. Apollonio, M. D., 7 Talbot Ave., Rockland
Donald H. Brown, M. D., 13 Maple St., Rockland

Lincoln-Sagadahoc County Medical Society

Delegates:
Francis A. Winchenbach, M. D., 910 Washington St., Bath
Stanley R. Lenfest, M. D., Waldoboro

Alternate:
Arthur A. Nichols, M. D., Wiscasset

FOURTH DISTRICT

Kennebec County Medical Society

Delegates:
Henry A. Brann, M. D., 31 Western Ave., Augusta
James N. Shippee, M. D., 12 Main St., Winthrop
Samson Fisher, M. D., 177 Main St., Waterville
Anthony E. Lepore, M. D., 72 Church St., Gardiner
Edwin W. Harlow, M. D., 177 Main St., Waterville

Alternates:
Allan J. Stinchfield, M. D., 6 Warren St., Hallowell
Clarence R. McLaughlin, M. D., 345 Water St., Gardiner
Moses F. Lubell, M. D., 50 Roosevelt Ave., Waterville
Richard H. Dennis, M. D., 33 College Ave., Waterville
Robert H. Dunn, M. D., Veterans' Adm., Togus

Somerset County Medical Society

Delegate:
George E. Sullivan, M. D., Bingham

Alternate:
Howard L. Reed, M. D., 235 Madison Ave., Skowhegan

Waldo County Medical Society

Delegate:
Seth H. Read, M. D., 15 Church St., Belfast

Alternate:
John A. Caswell, M. D., 16 Waldo Ave., Belfast

FIFTH DISTRICT

Hancock County Medical Society

Delegate:
James H. Crowe, M. D., 121 Main St., Ellsworth

Alternate:
Philip L. Gray, M. D., Blue Hill

Washington County Medical Society

Delegate:
Samuel R. Webber, M. D., Calais

Alternate:
John T. Metcalf, M. D., Calais

SIXTH DISTRICT

Aroostook County Medical Society

Delegates:
Bernard H. Gagnon, M. D., Houlton
P. L. B. Ebbett, M. D., Houlton

Alternates:
Clyde I. Swett, M. D., Island Falls
Clement L. Donahue, M. D., Caribou

Penobscot County Medical Society

Delegates:

Winford C. Adams, M. D., 66 Washington St., Brewer
Wesley C. McNamara, M. D., 8 Lee St., Lincoln
Paul W. Burke, M. D., 5 High St., Newport
Richard C. Wadsworth, M. D., 489 State St., Bangor

Piscataquis County Medical Society

Delegate:

Ralph C. Stuart, M. D., Guilford

Alternate:

Linus J. Stitham, M. D., Dover-Foxcroft

TECHNICAL EXHIBITS

Ayerst, McKenna & Harrison, Ltd., 22 East 40th St., New York 16, N. Y.

Representatives, Mr. Edward C. McMahon, Mr. William R. Sheridan

Elmer N. Blackwell, Surgical Appliance Specialist, 207 Strand Building, Portland 3, Maine

Representatives, Mr. Elmer N. Blackwell, Mr. Oakley R. Sanborn

The Borden Company, 350 Madison Ave., New York 17, N. Y.

Representative, Mr. Price French

Brewer & Company, Inc., 67 Union St., Worcester 8, Mass.

Representatives, Mr. Walter Spaulding, Mr. Joseph C. Hearn

Buffington's, Inc., Worcester 8, Mass.

Representatives, Mr. C. W. Rich, Mr. D. H. Merrill

Burroughs Wellcome & Co. (U. S. A.), Inc., Tuckahoe 7, N. Y.

Representatives, Mr. J. W. Rickards, Mr. R. L. McQuillan

Carnation Milk, Carnation Building, Los Angeles 36, California

Representatives, Mr. William Galatas, Mr. William Reed, Mr. Max Turner

Chicago Pharmacal Company, 5547 Ravenswood Ave., Chicago, Illinois

Representative, Mr. Raymond F. Driscoll

Ciba Pharmaceutical Products, Inc., Summit, N. J.

Representatives, Mr. M. K. Ross, Mr. J. W. Slayter

The Coca-Cola Company, Atlanta 1, Georgia

Representatives, Mr. Anthony J. Rumo, Mr. Dana W. Nevers, Mr. Gardiner T. Wall, Mr. Charles E. Durdan

Congratulations to the

Maine Medical Association on its

ONE HUNDREDTH ANNIVERSARY

Maine Surgical Supply Company

233 VAUGHAN STREET PORTLAND 4, MAINE

The Columbus Pharmacal Company, 326-336 Oak St., Columbus 15, Ohio
Representatives, Mr. Robert C. Corson, Mr. Robert C. Harvey

Davies, Rose & Company, Ltd., 22 Thayer Street, Boston 18, Mass.
Representative, Mr. Frederick L. Moulton

F. A. Davis & Company, 1914-16 Cherry St., Philadelphia 3, Pa.
Representative, Mr. R. M. Richter

DoHo Chemical Corporation, 100 Varick Street, New York 13, N. Y.
Representative, Mr. Irving Hahn

C. B. Fleet Co., Inc., Lynchburg, Va.
Representative, William P. Ferrell

Geo. C. Frye Co., 116 Free St., Portland 1, Maine
Representatives, Mr. Milton S. Kimball, Mr. H. A. Honan, Mr. Sidney F. Cheney, Mr. Claude W. Lamson, Mr. Millard C. Webber, Jr.

General Electric Company, X-ray Department, 1256 Soldiers Field Rd., Boston 35, Mass.
Representative, Mr. D. G. Hempstead

Hoffmann-LaRoche, Inc., Roche Park, Nutley 10, New Jersey
Representatives, Mr. Paul J. Kenaley, Mr. Ralph H. McQuinn, Mr. E. W. Marti

Lederle Laboratories, 30 Rockefeller Plaza, New York 20, N. Y.
Representatives, Mr. Rocco Maffei, Mr. Kenneth Morrill, Mr. Donald B. Currier

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TUBERCULOSIS ABSTRACTS*

Issued by the National Tuberculosis Association

Appraisal of Protective Value of BCG Vaccine

By Joseph D. Aronson, M. D., and Charlotte F. Aronson, A. B., *Journal of the American Medical Association,* May 24, 1952

The logical approach to the development and evaluation of a specific immunizing agent against tuberculosis requires not only an understanding of the fundamentals of immunity but an appreciation of the factors that make such an evaluation difficult. Such factors include variations in the biology of the tubercle bacillus, the susceptibility of the host, the pathogenesis of the disease, the degree of exposure, social and economic factors, and an almost universal decline in the morbidity and mortality from tuberculosis.

At the present time there is almost general acceptance that some degree of increased resistance follows a primary infection. The immunity in tuberculosis is not as complete as the immunity following such a bacterial disease as typhoid or the immunity following certain virus infections and tends to decrease with the disappearance of viable tubercle bacilli.

The impracticability of using viable virulent tubercle bacilli in man to induce resistance and the inconclusive results following the use of nonviable tubercle bacilli has led to widespread investigations of the value of viable, attenuated cultures of tubercle bacilli as immunizing agents. One of the most widely used of such cultures has been the BCG culture of Calmette and Guerin.

The BCG culture originated from a virulent, bovine type tubercle bacillus isolated in 1902. This culture was attenuated by long-continued transplantation on potatoes impregnated with beef bile and glycerine. This attenuated strain has retained the cultural, tinctorial, antigenic, and tuberculogenic properties of the original culture, but has lost the ability to produce progressive tuberculosis in animals as susceptible as the guinea pig or in man.

BCG vaccine was first used in France in 1921. Since then approximately 50 million persons of various ages living in different parts of the world, some under the most adverse and primitive conditions, have received the vaccine. The diversity of opinion regarding its value has been due, in great part, to the lack of adequately controlled investigations and to the difficulty of dissociating the protective role of BCG vaccine from an almost universal decrease in the morbidity and mortality from tuberculosis, antedating the use of BCG vaccine.

In order to appraise as objectively as possible the specific value of BCG vaccine in control of tuberculosis, a joint investigation was undertaken by the Henry Phipps Institute, University of Pennsylvania, and the Branch of Health, Bureau of Indian Affairs, Department of the Interior. This study was initiated in December, 1935, and it was not until February, 1938, that all of the injections of BCG vaccine and saline solution were completed in the different areas.

This investigation was conducted in five different geographical areas and included eight different tribes. These agencies and communities are widely scattered, and the inhabitants live under greatly differing climatic conditions. They vary in their dietary habits and represent different social and cultural patterns. In general, their economic condition is low, housing poor, and homes overcrowded. Excellent coöperation was obtained from the Indians throughout the study.

The initial phase of the study consisted of determining the mortality and morbidity from tuberculosis and the incidence of tuberculous infection in the general population. The incidence of tuberculous infection as determined by the tuberculin test varied little on the different agencies. The mortality rate from tuberculosis on the Indian reservations studied ranged from 200 to 300 per 100,000, while the mortality rate in Alaska ranged from 500 to 600 per 100,000.

The morbidity from tuberculosis was determined by roentgenologic examination of the chest of an unselected sample of the population. Pulmonary lesions compatible with a diagnosis of tuberculosis ranged from 1.1 per cent of those examined roentgenologically on the Pima Agency, Arizona, to 6.9 per cent among those living in southeastern Alaska. Data compiled by the Tuberculosis Control Unit of the Indian Service, indicated a high incidence of tuberculous infection and disease.

The group to be included in the evaluation of BCG vaccine was next selected. School and pre-school age children, all of whom were negative to 0.00002 mg. and 0.005 mg. of purified protein derivative (PPD) tuberculin, were placed by an alternate division of

* From Vol. XXVI, June, 1953, No. 6.

cards into one of two groups. These groups were comparable in numbers, age, and sex. One group received a single intracutaneous injection of freshly prepared BCG vaccine and were not revaccinated during the study. The second group received an intracutaneous injection of isotonic sodium chloride solution and served as controls. Neither group was isolated before or after vaccination, and no change was made in their mode of living. Both groups were examined annually by means of X-ray and tuberculin tests for from nine to eleven years.

The mortality from all causes and from tuberculosis was again determined 15 years after the study was initiated. The cause of death was based on roentgenologic and laboratory examinations, clinical records, nurses' notes, and personal interviews with relatives in those few cases in which diagnosis had not been established. In no instance was the death certificate diagnosis accepted without further careful investigation. During the 13 to 15 years of observation a total of 71 vaccinated and 128 controls died from all causes. Among the 1,551 vaccinated persons observed for a total of 21,245.5 person years, 12 died from tuberculosis, a rate of 0.56 per thousand person years of observation. Among the 1,457 controls observed for a total of 19,520.5 person years, 65 died from tuberculosis, rates of 3.32 per thousand person years. Among the vaccinated persons and controls 59 and 63, respectively, died from nontuberculous causes. Of the 12 deaths from tuberculosis among the vaccinated group, six were due to pulmonary tuberculosis, and six to nonpulmonary forms. Of the 65 unvaccinated controls who died from tuberculosis, 32 died from pulmonary tuberculosis, 31 from acute miliary or similar forms of tuberculosis including tuberculous peritonitis, and two from bone and joint tuberculosis. The vast majority who died from generalized tuberculosis had been negative to tuberculin within the year of death or had become positive for the first time within that period.

The observed data over a period of 13 to 15 years support the concept that there is a close but not absolute relationship between resistance to reinfection and hypersensitivity. Hypersensitivity among the vaccinated, of whom 12 died from tuberculosis, ranged from 93.3 per cent one year following vaccination to 90.2 per cent 11 years later. Among the unvaccinated controls, 65 of whom died from tuberculosis, hypersensitivity increased from an incidence of 12.7 per cent one year after the initiation of the study to 41.7 per cent after 11 years.

(The printing of Tuberculosis Abstracts is made possible by the coöperation of your local tuberculosis and health association.)

Committee Reports—Continued from page 164

Committee on Public Relations

Two meetings of the Public Relations Committee were held this year, both at the Eagle Hotel in Brunswick.

The first meeting, on July 27th, 1952, discussed two matters at some length. A study and evaluation of local public health services in this State under the present laws has been suggested before by this Committee several times. At this meeting the Executive Secretary was directed to take up the matter of this study with the Legislative Research Committee of the incoming Legislature and try to persuade them to undertake this study.

At this same meeting we met with some officers of the Maine Pharmaceutical Association, at their suggestion, to discuss any points of friction between them and the medical profession. When the subject was opened, it disclosed a remarkable lack of points of disagreement. Two matters on which there was no disagreement, but which were sources of irritation, were: druggists prescribing; doctors telling patients how much a prescription would cost. There was also discussion of the new rules as to the refilling of prescriptions.

Doctor M. Tieche Shelton of Augusta was delegated from this Committee to attend a session of the Pharmaceutical Convention and talk with their members on these matters. Incidentally, your Chairman attended that meeting, and Dr. Shelton did a fine job.

The second meeting of this Committee was on May 11th, 1953. Present: Warren E. Kershner, M. D., Chairman, Ralph A. Goodwin, M. D., and M. Tieche Shelton, M. D.

The main subject for discussion was the forums which have been held in St. Petersburg, Florida, with so much success. These forums are worked out and presented by the doctors of the local County Society in coöperation with a local newspaper. The newspaper presents to the public the proposition that a small group of doctors, perhaps eight or nine, will discuss in public, at a certain time and place, one selected disease or ailment and answer questions about it. The disease or ailment is selected by the public in advance through votes or requests to the newspaper.

When the subject is decided upon then the public, through the newspaper, is told what it is and is given the opportunity to write in questions. From the questions sent in, twenty-five or thirty are selected to be answered on the forum, when held. The newspaper publicizes in advance the date of the forum, its location, the doctor speakers, and the subject matter for the discussion. These forums have been very successful and have attracted much favorable comment locally, as well as in some national magazines, such as McCalls and Time.

While the forum, if instituted here, would obviously be the project of some local County Society it nevertheless seemed desirable for this Committee to study the matter and to determine two questions:

(1) Does this have desirable public relations aspects and results for doctors?

(2) Is it clearly ethical?

The Committee was furnished with copies of the St. Petersburg method of operation; the members also read the story in Time magazine reporting on the project.

It was the unanimous feeling of the Committee that this was a public relations project desirable in its results, and that doctors participating in it, on vote of their County Societies, were conducting themselves ethically. The Committee decided, however, that they should make their recommendation to the Council for its decision.

WARREN E. KERSHNER, M. D.,
Chairman.

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COUNTY SOCIETY NOTES

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, Maine, May 13, 1953. There were ten members present.

A motion was passed that resolutions be drawn up on the death of Dr. Charles C. Morrison.

Dr. James H. Crowe of Ellsworth, reported on the interim meeting of the Maine Medical Association House of Delegates, which was held April 19th in Bangor.

Dr. Charles H. Knickerbocker, who was, until a few months ago, assigned to the Surgeon General's office, gave a very enlightening talk on Medical Aspects of the Draft Situation.

Arthur M. Joost, Jr., M. D.,
Secretary.

Kennebec

A regular meeting of the Kennebec County Medical Society was held at the Veterans Administration Center, Togus, Maine, April 16, 1953. A most excellent dinner was served to forty-four members and guests at 7.00 P. M.

At the business meeting the President, Dr. Kurt A. Sommerfeld, suggested the appointment of an Ethics Committee. Following active discussion it was moved, seconded and voted to table the matter (indefinitely).

Dr. Robert L. Ohler of the Veterans Administration Center, introduced the speaker of the evening, Dr. Maurice Victor of the Massachusetts General Hospital, Boston. Dr. Victor's subject was Medical Aspects of Alcoholism. He illustrated his talk with slides, charts and movies.

A. H. Morrell, M. D.,
Secretary.

York

Dr. H. Danforth Ross of Sanford, entertained members of the York County Medical Society at the Bauneg Beg Country Club on May 13, 1953.

A social hour was followed by dinner at 2.00 P. M.

At the business meeting, Dr. Harold L. Osher was elected to membership.

Dr. Louisa M. Wolff of Boston, gave a very interesting talk on Heart Diseases.

There were twenty-six members and twelve guests present.

C. W. Kinghorn, M. D.,
Secretary.

New Members

Aroostook

Myron J. Towle, M. D., Ft. Fairfield, Maine.

Cumberland

Elmer B. Kenneally, M. D., 704 Congress St., Portland, Maine.

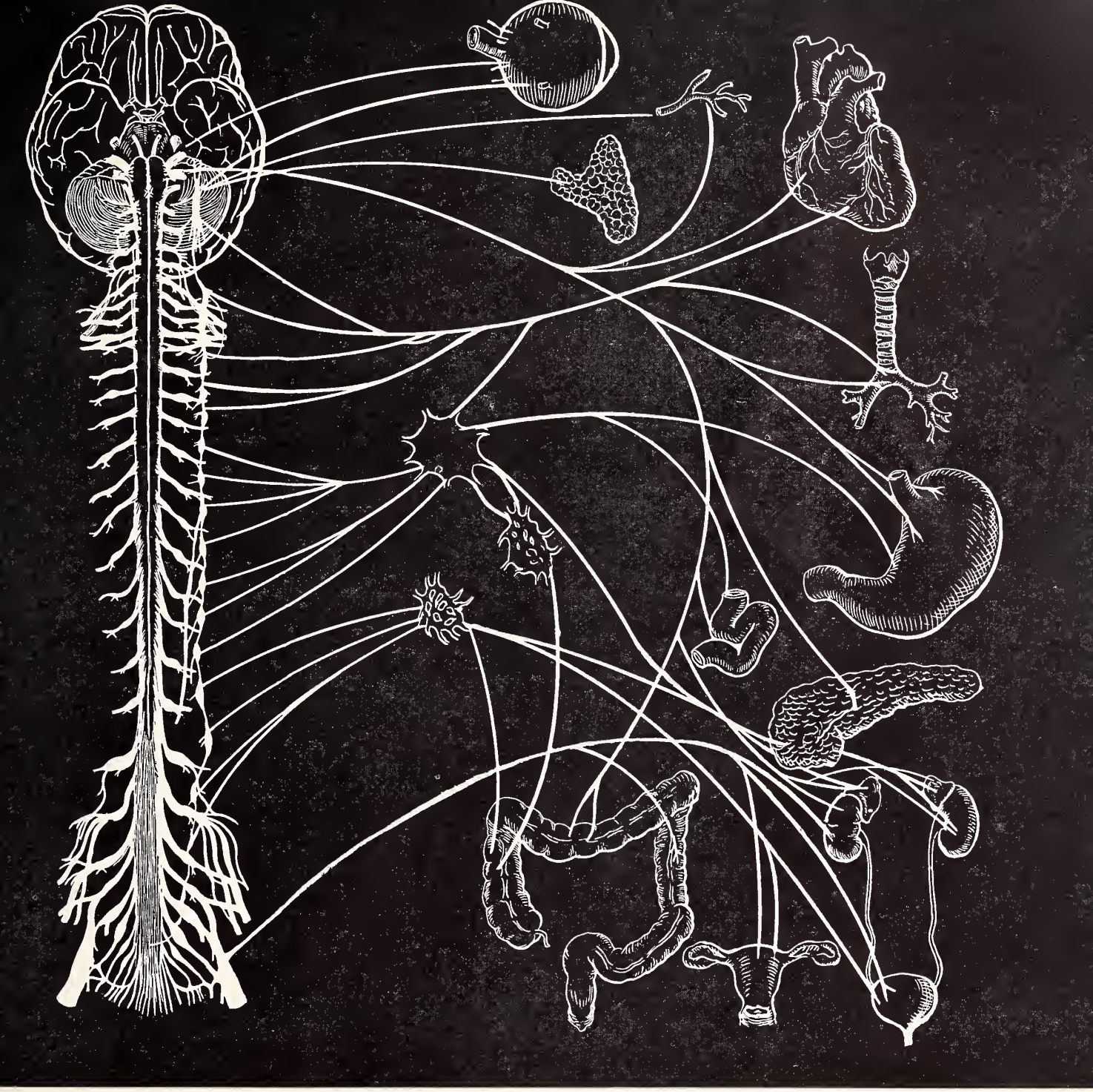
John B. Titherington, M. D., 209 State St., Portland, Maine.

Somerset

John H. Cole, M. D., 44 Maple St., Madison.

York

Harold L. Osher, M. D., 30 Alfred St., Biddeford, Maine.



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NEWS AND NOTES

National Foundation for Infantile Paralysis, Inc. Emergency Equipment

The Portland office of the National Foundation for Infantile Paralysis, Inc., announces that they are acquiring information from the hospitals in this State to determine their equipment resources, including iron lungs and hot pack machines. This information will be catalogued and used for emergency situations.

If an emergency situation does arise the doctor can obtain information on the location of equipment by calling the Maine State Office of the National Foundation for Infantile Paralysis at Portland 2-8353. After hours call Mr. George H. Hawkins, Bar Mills 52-11; Mr. Paul F. Hungerford, Westbrook 1312-J; or Miss Butkis, office secretary, Portland 4-3370.

Maine Medico-Legal Society

The Maine Medico-Legal Society will hold its Annual Meeting on Wednesday, August 19th, at the Augusta House, Augusta, Maine.

There will be a business meeting in the forenoon and a Program in the afternoon.

Notice and program will be sent to each member during July.

George L. Pratt, M. D.,
Secretary.

State of Maine Board of Registration of Medicine

Adam P. Leighton, M. D., 192 State Street, Portland, Secretary.

List of Physicians Licensed on March 11, 1953, to practice Medicine and Surgery in the State of Maine.

William C. Amman, M. D., St. Luke's Hospital, New York 25, N. Y.

Peter W. Bowman, M. D., Supt., Pownal State Hospital, Pownal, Maine.

Johan P. Bonk, M. D., 19 Village Lane, Arlington, Mass.

John D. Denison, M. D., Church Street, Worthboro, Mass.

Herbert J. Hopkins, M. D., 326 Main Street, Lewiston, Maine.

Roger J. P. Roberts, M. D., 154 Adams Street, Dedham, Mass.

Raymond A. Schneider, M. D., 166 Broadway, Bangor, Maine.

Jou Sheng Tchao, M. D., 33 College Avenue, Waterville, Maine.

Roger G. Metcalf, M. D., Coopers Mills, Maine.

Through Reciprocity

J. H. Averill, M. D., 57 Lawton Road, Needham, Mass.

Warren C. Baldwin, M. D., 37 Gill Road, Waverly 79, Mass.

Abram I. Cohen, M. D., Harrison, Maine.

Freddy Homburger, M. D., 30 Bennet Street, Boston 11, Mass.

Francis X. Mack, M. D., Mercy Hospital, Portland, Maine.

Charles D. McEvoy, Jr., M. D., 316 State Street, Bangor, Maine.

Herman C. Petterson, M. D., Chebeague Island, Portland, Maine.

Bernard Schnitzer, M. D., U. S. Naval Radio Station, Winter Harbor, Maine.

Mental Health Clinic Schedule

The Division of Mental Health offers psychiatric clinic service to children and adults in the following cities:

Portland — Health and Welfare Department, 178 Middle Street. Every Tuesday.

Lewiston — Out-Patient Department, Central Maine General Hospital. Every Monday.

Augusta — Bureau of Health, Division of Mental Health. By Appointment.

Waterville — Mansfield Clinic, Thayer Hospital. 3rd Wednesday.

Bangor — Out-Patient Department, Eastern Maine General Hospital. 1st Wednesday afternoon.

Valentine School, Union Street. 1st Thursday.

A traveling clinic visits the following towns and cities at irregular intervals: Caribou, Houlton, Lincoln, Machias, Rockland and Rumford. The Portland Clinic is open daily with a staff of 1 psychiatric social worker and 1 psychologist. The psychiatrist is in attendance on Tuesdays. The other clinics are staffed by a psychiatrist and a psychologist.

Referrals may be made by private physicians, parents, families, school agencies, school superintendents, Department of Education, all divisions within the Department of Health and Welfare. Application blanks may be obtained from the main office of the Division of Mental Health — State House, Augusta.

Patients are seen by appointment only. Each child must be accompanied by a parent or guardian. Applications should be sent to the Director, Division of Mental Health, Department of Health and Welfare, State House, Augusta.

Tumor Clinics

Sisters Hospital, Waterville, Maine, 1st and 3rd Thursdays, 10.00-11.00 A. M., Armand L. Guite, M. D., Director.

Augusta General Hospital, Augusta, Maine, 1st Monday, 9.00 A. M., Leon D. Herring, M. D., Director.

Bath Memorial Hospital, Bath, Maine, 2nd Tuesday, 3.00-5.00 P. M., Francis A. Winchenbach, M. D., Director.

Maine General Hospital, Portland, Maine, Thursdays, 10.00 A. M., Joseph E. Porter, M. D., Director.

Presque Isle General Hospital, Presque Isle, Maine, Thursdays, 10.00-12.00 A. M., Storer W. Boone, M. D., Director.

Madigan Memorial Hospital, Houlton, Maine, 2nd and 4th Wednesdays, 10.00-12.00 A. M., Joseph A. Donovan, M. D., Director.

Central Maine General Hospital, Lewiston, Maine, Tuesdays, 10.00 A. M., Ross W. Green, M. D., Director.

St. Mary's General Hospital, Lewiston, Maine, Wednesdays, 3.30 P. M., Romeo A. Beliveau, M. D., Director.

Eastern Maine General Hospital, Bangor, Maine, Thursdays, 10.30 A. M., Magnus F. Ridlon, M. D., Director.

Thayer Hospital, Waterville, Maine, Tuesdays, 10.00-11.00 A. M., Irving I. Goodof, M. D., Director.

The Journal of the Maine Medical Association

Volume Forty-Four | Portland, Maine, July, 1953 | No. 7

THE MANAGEMENT OF PEPTIC ULCER DISEASE

Roger G. Metcalf, M. D., Togus, Maine*

The etiology of peptic ulcer is unknown. However, increased acid, increased peptic activity, decreased tissue resistance, and psychic trauma, mediated through the vagus and the pituitary adrenal axis have all been implicated.

The diagnosis rests primarily on an accurate history. The typical mid-epigastric post-prandial distress relieved by food, soda, and rest is prone to occur in attacks with relatively long intervals of freedom from pain between attacks. There is no diagnostic difference between the cycle of pain in gastric or duodenal ulcer. Complications may be expected when there is a change in the symptom complex.

Additional diagnostic measures are afforded by repeated X-ray examinations, cytological study of gastric aspirations, gastric analysis, and gastroscopy. The X-ray reports should be tempered by clinical judgment. Cytological study must be carried out by an experienced technician if it is to be relied upon.[1] Its value has considerable limitation. Ordinary gastric analysis is of little practical value except to determine the presence of free hydrochloric acid after Histamine. If no free hydrochloric acid is obtained in the presence of a known gastric ulcer, the test should be repeated. True achlorhydria in such a case would be cause for concern lest cancer be present. It would be rare indeed to find either a gastric or a duodenal ulcer which did not show free hydrochloric acid after Histamine.[2] Conversely, cancer is often found when free hydrochloric acid is present. Gastroscopic study must not be over emphasized, nor should it be depreciated. It is especially useful in evaluating a gastric ulcer, in upper gastro-intestinal bleeding of unknown origin, and in distinguishing gastritis as a possible cause of symptoms when other studies are negative. It is part of the desired work-up in cases of suspected gastric malignancy.[3]

The management of peptic ulcer disease depends upon whether it is complicated or uncomplicated.

On the premise that the pain of uncomplicated peptic ulcer is due to excess gastric motility, excess acid, and peptic activity, and believing that good nutrition is a prerequisite to healing, a program of strict acid neutralization and adequate feeding is advised for use in patients who require hospitalization for this distress. The results of this treatment plan are most gratifying when strictly followed after the method of Rossett.[4]

Briefly stated, the plan calls for the prompt institution of a full three feeding, bland diet with a 4 to 1 mixture of Aluminum Hydroxide Gel and Milk of Magnesia given between meals and at bedtime and every two hours through the night in sufficient quantities to produce a hydrochloric acid free aspirate in the morning. This requires between 60 and 150 c.c.'s per dose. Aspiration is carried out at about 8 o'clock, 2 hours after the last dose of Aluminum Hydroxide Gel-Magnesia mixture. If this mixture causes diarrhea, the magnesia is reduced or stopped for a few days. In addition, the patient is given a period of bedrest and supplied with full doses of Banthine or Tincture of Belladonna during the period of hospitali-

* From VA Center, Togus, Maine.

zation which seldom requires more than 20 or 30 days. Bedrest is maintained for five days after all distress has disappeared, or the crater has healed by X-ray. This last criterion may be difficult to arrange in the average hospital. For reasons of expediency, we often find it a troublesome dictum to follow, although we are aware of its importance. Banthine is prescribed in 100 mgm. doses every 4 hours. The only contra-indication is difficult urination which may develop in older people. For the patient over 50 years of age, 1.5 c.c. of Tincture of Belladona every 4 hours is preferable. Certainly, it is less expensive. Glaucoma must be watched for, although we have never seen it develop. This whole program is continued for 7 additional days from the time the patient is allowed out of bed. After that, if no complication has intervened, he is instructed in the nature of the bland six feeding diet, and six feedings instead of three are instituted with omission of antacid and Banthine. This full diet is given for 3 days so that the patient may be well accustomed to it, and he is then discharged.

As a rule the pain, regardless of its severity, and in the absence of obstruction or free perforation, subsides completely within a week, and usually much less time is required. The acute pain is relieved overnight in most instances.

When discharged from the hospital, the patient is advised of the necessity of following the bland six feeding diet even during recurrences whether or not he has had an operative procedure. He is told to respect the forbidden list of foods. Frequent meals on time is our principal dietary admonition.

It is well known that there is no specific way to prevent recurrences. We do not prescribe medication other than mild sedation. The patient is warned against the chronic use of Banthine which may mask the pain of ulcer and allow its activity to progress.[5] He is told that he has a chronic disease, and that dietary lapses, smoking, and alcohol will increase the frequency and severity of recurrences.[6]

Because emotional disturbances do exist in many if not all patients with peptic ulcer, and nervous stress does play an important role in provoking acute ulcers or the recurrences of chronic ulcers, each case is seen by a Psychiatric Social Worker who, in association with the physician, gives superficial psychotherapy and starts the aid afforded by Social Service agencies. Each patient is seen at three-monthly intervals for medical follow-up, and if warranted, a social worker augments the physician's encouragement for these passive dependent individuals.

The complications of peptic ulcer disease are well known. Generally, we think of them as being intractability, obstruction, bleeding, perforation, and gastric ulcer. These, in turn, may be considered the primary reasons for operative interference.

Intractability is difficult to define and lends itself to considerable discussion when applied in a given case. Should a patient be placed on the above regimen and continue to complain of incapacitating pain for a month or so, we should consider his ulcer intractable and recommend operation. Before operation, however, we would examine our diagnostic criteria very critically since such a situation would be distinctly unusual. If he had followed the program for a year and still experienced frequent recurrences, we should probably recommend surgery. A person becomes a poorer surgical risk as age increases. With repeated episodes of ulcer activity, operation is made more difficult by the accumulation of adhesions and fixation of organs or penetration into contiguous organs. Therefore, long waiting before operation is undesirable.[7]

Pyloric obstruction as a result of duodenal or gastric ulcer is treated by medical means before surgery is instituted.[8] This provides time to "build up" a depleted individual by parenteral means, and if possible by oral feedings. In general, if there is a complete, or nearly complete obstruction, constant suction is applied for 72 hours after which hourly feedings are gradually increased to a point where an intake of a soft diet will be tolerated. In order to test for the presence and degree of obstruction as well as to relieve it, gastric emptying with a 36 French catheter is carried out at 8 A. M. and 10 P. M. with feedings being stopped at 6 P. M. This provides a reasonable test for gastric residual which should not exceed 150 c.c.. During the night, 60 c.c. or more of Aluminum Hydroxide Magnesia mixture is given every two hours as a means of complete neutralization.

During this time, careful electrolyte and fluid balance is controlled by the use of a chloride balance sheet recommended by Scribner.[9]

If by the 10th day, the obstructed patient cannot tolerate more than whole milk feedings, prompt operation is recommended. By this time, he should be in good condition having had blood, vitamins, potassium[10] and a daily parenteral intake of at least three liters of amigen and one liter of 10% invert sugar with or without saline (total protein 114 grams, and a minimum of 1400 calories).

If, on the other hand, 100 c.c. feedings of protein milk (whole milk with added protein powder) were tolerated, we should probably carry him longer than 10 days and hope for complete opening of the obstruction. Further oral feeding would thus place him in a better general condition for surgery, and allow edema of the stoma to subside. Operation would then be recommended on an elective basis. A history of repeated obstructive episodes would constitute an indication for operation.

A patient with a vigorously bleeding ulcer is admitted on the Medical Service and treated as a combined medical and surgical problem. Ample amounts

of blood are promptly given to combat shock, and raise the hematocrit to at least 35%. In addition to a careful history and physical examination, laboratory procedures are done to rule out bleeding esophageal varices and blood dyscrasias.[11] Because we consider exact diagnosis desirable, we employ emergency gastro-intestinal X-rays within the first 12 to 72 hours as a routine measure.[12] If this is negative, and if there is a poor history for ulcer, prompt esophagoscopy is done to rule out esophageal varices.[13] If these are not found, esophagoscopy is followed by gastroscopy to help rule out gastritis or gastric ulcer as the cause of bleeding.[3] At times hematemesis may be so alarming, and the history for bleeding varices so suggestive that a Sengstaken esophageal balloon is employed as the first procedure before an exact diagnosis is made.[14] This may save a life and offer further evidence whether or not bleeding is from esophageal varices. When the esophageal balloon is used in such an instance, the other diagnostic procedures are done as soon as possible since a patient with esophageal varices may also bleed from a peptic ulcer.

Medical treatment is continued only if 500 c.c. or less of blood every 8 hours maintains the hematocrit at 35%. If more blood is required, the patient is operated upon as an emergency within the first 24 to 72 hours.[15] If massive bleeding recurs immediate operation is carried out. Gastric resection in the absence of a definite diagnosis may be necessary in certain circumstances.[16]

The bleeding ulcer patient should not be starved or placed on cracked ice and morphine. As suggested by Rossett, our routine is to feed a high protein, pureed diet in small amounts every two hours during the day with sodium luminal, grains 2 every 4 to 6 hours and subcutaneous atropine 1/100 grains every 4 hours.[17] Food is withheld only if vomiting is present. Antacids in the form of calcium carbonate and magnesium oxide as powders in 200 c.c. of milk are given every two hours through the night during the period of bleeding. Five days after the termination of all bleeding, the patient is allowed up. During these five days, he is fed a mixture of Aluminum Hydroxide Gel and Milk of Magnesia every two hours during the night in the amount necessary to effect neutralization of the gastric contents. When he is allowed up, he is given a bland diet with Milk of Magnesia and Aluminum Hydroxide Gel as outlined in the treatment of uncomplicated peptic ulcer.

In general, if a person is past the age of 45 years and has bled massively once, elective operation is suggested. Patients under 45 years of age with two massive bleedig episodes are advised to have surgery. At times, because of occupation and geographical location, we recommend surgery under the age of 45 on the basis of one massive bleeding episode.

Perforated ulcer is treated by prompt operation which is usually a primary closure of the tear. Since patients who have perforated are candidates for recurrent complications, it is our present practice to recommend elective gastric resection.[18]

The managmeent of gastric ulcer represents a special problem in observation and judgment. Like all ulcers, they are found more often in the male, tend to appear at a later age, and are prone to recur, perforate and bleed. When bleeding does occur, it is more severe and has a higher mortality. The question of whether one is dealing with a malignant ulcer represents a serious responsibility to the physician.

Because 10-20% of gastric ulcers considered to be benign by all criteria prove to be cancer, we are reluctant to be too conservative.[7, 20] We recommend surgery for greater curvature and prepyloric ulcers because both have a high incidence of malignancy and the prepyloric lesion is difficult to evaluate with X-ray or gastroscopy. High gastric ulcers may require total gastrectomy. Achlorhydria after histamine in the presence of any gastric ulcer makes surgery mandatory.

If an ulcer on the lesser curvature appears benign by gastroscopy and X-ray, and if after two to four weeks of medical treatment it shows rapid healing or complete disappearance, the patient is treated medically with frequent follow-up examinations.

Operation for peptic ulcer disease is a subject for continued discussion at our weekly Combined Medical-Surgical Gastro-intestinal Conferences. The general principles which have been described above are followed. Each case is decided upon its own merits. The operation of choice is subtotal gastric resection. Removal of the ulcer bed is not necessary, and our surgeons have great respect for the increased morbidity incident to unwise manipulation of the adherent ulcer. Vagotomy with gastroenterostomy is usually reserved for older patients with chronically obstructed duodenal ulcers. Vagotomy alone is used for the marginal ulcer in a previously resected case. Marginal ulcer following gastroenterostomy is treated with vagotomy and gastric resection. Vagotomy has not been employed with primary subtotal gastric resection as a routine procedure.

Conclusion

The management of duodenal and gastric ulcers as carried out in this Veterans Hospital has been outlined.

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INDICATIONS FOR THE SCHOEMAKER-BILLROTH I OPERATION IN THE TREATMENT OF PEPTIC ULCER

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In the past two years an increasing number of Billroth I operations for the treatment of peptic ulcer have been carried out in the VA Hospital, Togus, Maine. Although the series is too small for statistical analysis, we feel that it will be worth while to evaluate these cases at this time, and appraise, insofar as is possible, the indications and contraindications for this procedure.

Clinical Material

During the two-year period January, 1951, to January, 1953, 61 subtotal gastrectomies have been carried out in the treatment of peptic ulcer. Twenty-two gastric resections were of the Schoemaker-Billroth I type, and 39 gastric resections were of the Hofmeister-Polya type. These cases are listed in Table 1 together with a brief notation as to the pathology found at the time of operation. The indications for subtotal gastrectomy in these 61 cases are listed in Table 2. As would be expected, many of these patients exhibited at one time or another all of the various complications of peptic ulcer disease, making it difficult to decide under just which of the categories listed these particular cases should be classified. Sixteen of the patients gave a history of perforation on at least one occasion. During the period in question there has been one operative death. The postoperative complications have been listed in Table 3.

Sixty patients were followed for at least six weeks after the operation. The average follow-up period has been approximately six months. There has been one recurrent duodenal ulceration in the 22 patients in whom subtotal gastrectomies were carried out by the Billroth I technique. There has been no known development of a marginal ulcer in the series of 38 cases, in whom the Hofmeister type of gastrectomy had been done. The follow-ups have been, however, far too short to allow for proper evaluation in regard to recurrent peptic ulceration.

The incidence of "dumping syndrome" is recorded in Table 4 as is a brief evaluation of the nutritional status in these 60 patients. We have observed that, with rare exceptions, if dumping symptoms develop they do so early in the postoperative course and they tend to gradually disappear. However we have had several patients in this series who have continued to complain of moderate dumping symptoms throughout the follow-up period.

Technique of Subtotal Gastric Resection for Peptic Ulcer

The abdominal cavity is entered, exploration is made, and the pathologic findings are noted. The lesser sac is then entered through the gastrocolic omentum, and the dissection is carried up along the greater curvature of the stomach. High ligation of the left gastroepiploic vessels is carried out, and a few of the lowermost vasa brevia are also divided. High ligation of the left gastric vessels is next carried out, and the lesser and greater curvatures of the stomach

are cleaned of soft tissue in preparation for transsection. A large Payr clamp is then obliquely placed so as to include approximately 70% of the stomach and almost all of the lesser curvature of the stomach in the specimen. An Ockerblod kidney pedicle clamp is then applied proximally on the greater-curvature aspect of the gastric remnant, and the specimen is divided with the scalpel, the gastric stump being closed at the same time using the "cut and sew" technique (Figure 1). This continuous mucosal stitch is brought back to the starting point as a second row of sutures to provide additional hemostasis. The seromuscular layer is sutured with interrupted silk. An alternative method has been to divide the stomach with cautery after first applying a Von Petz clamp. The kidney pedicle clamp is left on the greater-curvature aspect of the stomach while the dissection is carried down to the proximal duodenum. The segment removed includes the pyloric antrum and a cuff of duodenum. An attempt is made to include all ulcerated areas in the specimen. A rubber-shod clamp is placed on the distal end of the stomach in order to prevent spillage and at the same time not to crush the specimen; stay sutures are placed on the first portion of the duodenum; and the specimen is removed with a scalpel (Figure 2). Care is taken to remove with suction any reflux of duodenal fluid. The opened end of the duodenum is inspected to be sure that it is grossly normal. The greater-curvature aspects of the residual gastric pouch and the duodenum are next brought together. If this can be done without tension, end-to-end gastroduodenostomy is then carried out with an inner layer of continuous fine chromic catgut and a seromuscular layer of interrupted fine silk sutures (Figure 3).

Occasionally the success of this operation requires freeing the first portion of the duodenum from any inflammatory adhesions to liver, gall bladder, colon or other structures which might restrict its mobility. It is similarly important to free the proximal stump of the stomach from adhesions to the liver, pancreas, kidney, etc. It is most essential that the dissection of

Table No. 1
SUBTOTAL GASTRIC RESECTION FOR PEPTIC ULCER
VA Hospital, Togus, Maine
1951-1952
Pathologic Findings at Operation

	Schoemaker-Billroth I	Hofmeister-Polya	Total
Duodenal ulcer			
Posterior wall ulcers		12	
Anterior wall ulcers	5	8	
Multiple ulcers		6	
Ulcers not visualized	1	6	
Total	6	32	38
Gastric ulcer			
Single ulcers	11	4	
Multiple ulcers	2	2	
Total	13	6	19
Duodenal and gastric ulcers	1		1
Jejunal ulcer (following P.G.E.)		1	1
Pyloric hypertrophy (no ulcer found)	1		1
Pyloric hypertrophy with prolapse of gastric mucosa (no ulcer found)	1		1
GRAND TOTAL	22	39	61

Table No. 2
INDICATIONS FOR SUBTOTAL GASTRECTOMY
61 Cases Peptic Ulcer

	Hemorrhage	Obstruction	Perforation	Intractability*
Duodenal ulcer	13	8	7	10
Gastric ulcer	9	4	1	5
Duodenal and gastric ulcer		1		
Jejunal ulcer				1
Pyloric hypertrophy with stenosis		2		
TOTAL	22	15	8	16

* Although some of the patients were "intractable" largely because of recurrent ulcer type pain, many others gave histories of previous acute perforation, repeated bleeding episodes, or occasional periods of gastric retention, nausea, and vomiting. Two of the patients with gastric ulcer were operated upon for question of gastric cancer.

both gastric curvatures be carried high on the stomach and that the blood supply be divided at a corresponding level, not only to assure effective treatment of peptic ulcer, but also to permit satisfactory gastro-duodenal anastomosis. At times mobilization of the duodenum requires incising the peritoneum on its right lateral aspect. However, this procedure is usually unnecessary.

If it is found that there will be tension in the suture line, gastro-jejunostomy in the Hofmeister fashion with either a retrocolic or antecolic anastomosis is performed. The proximal jejunum is always

Table No. 3

SUBTOTAL GASTRIC RESECTION CARRIED OUT IN 61 CASES OF PEPTIC ULCER

Tabulation of Postoperative Complications

	Schoemaker-Billroth I (22 cases)	Hofmeister-Polya (39 cases) Anastomosis	
		Retrocolic (14 cases)	Antecolic (25 cases, 1 death)
Recurrent duodenal ulcer	1		
Leak from anastomosis	1		1
Duodenal fistula		1	2
Probable duodenal fistula			1
Pancreatic and biliary fistula			1
Subphrenic abscess			2
Wound hemorrhage			1
Wound disruption			1
Superficial wound infection			2
Transient obstructive jaundice (cause undetermined)	1	1	
Fever of undetermined origin			1
Cystitis			1
Atelectasis and/or pneumonia	2	1	3
Thrombophlebitis			1
Thromboembolism		1	
Delirium tremens	1		
TOTAL COMPLICATIONS	6	4	17
Number of patients with complications	4	3	11
% of total patients	18.2%	21.4%	44.0%
		35.9%	

Table No. 4

A. *Dumping Syndrome*

	Billroth I 22 patients	Hofmeister-Polya, 38 patients	
		Retrocolic 14 patients	Antecolic 24 patients
Severe dumping syndrome	0	0	1
Moderate dumping syndrome	1	3	3
Minimal dumping syndrome	2	4	5
TOTAL	3	7	9
	13.6%	(50%	37.5%)
		Combined Percentage 42.1%	
B. *State of Nutrition Post-op.*			
Loss of weight immediate F.U. period with later stabilization	0	1	3
Failure to gain weight	3	5	4
TOTAL	3	6	7
	13.6%	(42.8%	29.2%)
		Combined Percentage 34.2%	

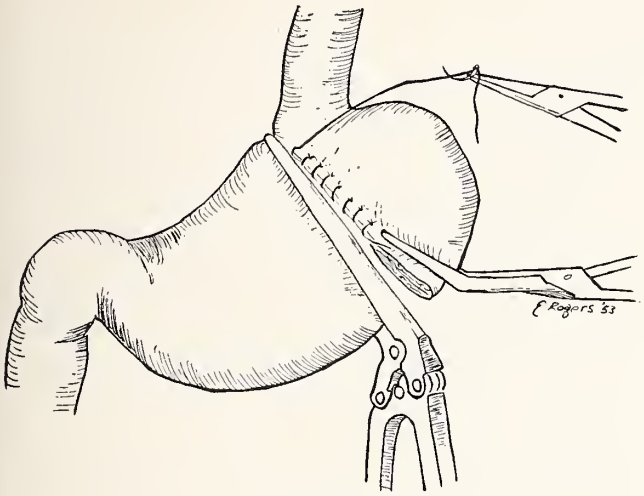

Figure I

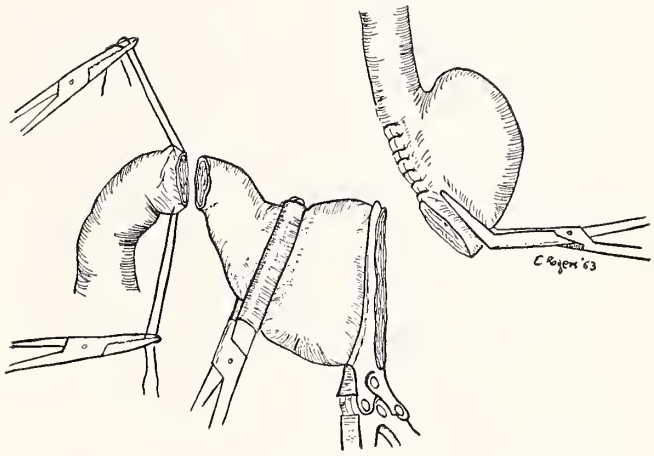

Figure II

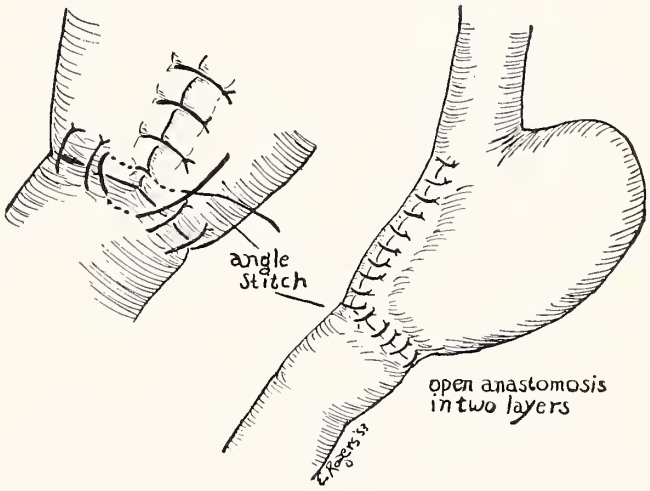

Figure III

made as short as possible. An antecolic anastomosis can be done if the omentum is small and it is thereby possible to have a short afferent loop of jejunum. If a duodenal ulcer is left in, or if the duodenum is grossly scarred and deformed, the duodenal stump is closed, and gastrojejunostomy is carried out. It is sometimes found advisable to sever the duodenum through the ulcer itself at the point of narrowest constriction. When the lumen is thus reduced, closure and inversion are found to be easier and safer than they frequently are with an exclusion operation. It is always important that the duodenum be sufficiently mobilized to allow a serosa-to-serosa closure with interrupted silk after inversion of the stump. In some instances where the ulcer process has been found to be either extensive or associated with much acute inflammation or in close proximity to the structures of the portal triad because of shortening and deformity of the first portion of the duodenum by scar tissue, we have thought it wise to divide the specimen above the pylorus and carry out a Bancroft-Finsterer type of procedure to remove the mucosa of the antral remnant. This procedure, however, has been considered necessary only four times in this series of 61 cases.

Discussion

Although the Billroth I operation has had many advocates both in this country and abroad, it has never been as popular as the Billroth II operation and its many variations. There are several reasons for this: First, Billroth himself soon abandoned end-to-end gastroduodenostomy because of the occasional anastomotic leak at the "deadly triangle."[1] Second, there has undoubtedly been a widespread fear that after an adequate "¾" gastric resection, end-to-end gastroduodenostomy would result in undue tension on the suture line. Third, many peptic ulcer patients have extensive duodenal disease defying complete resection, and in these cases the natural preference would be to exclude completely the site of the disease and carry out an anastomosis between normal tissues. Last, a natural tendency in surgery is to standardize operative procedures as much as possible, and it is understandable that an operation as satisfactory as a Polya type of gastrojejunostomy should become the routine operation for all degrees and types of peptic ulceration.

Considering these points one at a time, leakage at the site of the anastomosis does not seem to be the factor that it once was no doubt because of improvement in surgical technique. It occurred only once in our series of 22 cases. In this patient minimal leakage was present for approximately four weeks and ceased spontaneously. Secondly, if adequate mobilization is carried out, undue tension at the suture line is not a problem. It is possible even to carry out total gastrectomy with end-to-end esophagoduodenostomy without tension.[2] The third factor, the presence of unresected and perhaps unresectable duodenal disease is not so easily ignored. We have elected to carry out a Billroth I procedure in only

one such case, a 57-year-old man whose history of duodenal ulcer of 20 years' duration was substantiated by repeated X-ray examination. Emergency resection was carried out for massive hemorrhage. At operation an area of scarring was visible on the anterior wall of the first portion of the duodenum. Approximately 60% of the stomach was removed, and Billroth I type of gastroduodenal anastomosis was carried out. Neither the resected specimen nor the duodenum, as inspected at time of operation, showed any evidence of ulceration. The duodenum, however, had been divided between Kocher clamps, and it is thought likely that the ulcerated area was in the clamped portion of bowel and that it was wholly included within the suture line. His postoperative course was uncomplicated for about three weeks; then the patient again developed symptoms typical of peptic ulcer. When readmitted to the hospital his stools contained blood, and two X-ray examinations revealed a duodenal ulcer niche just distal to the site of anastomosis. This recurrent ulcer rapidly responded to medical therapy and subsequent follow-up examinations have been negative.

In spite of this one case of recurrent ulceration, we feel that if an adequate amount of stomach is removed so as to reduce the acid-pepsin factors to satisfactorily low levels, retained duodenal ulcer disease will undergo spontaneous and rapid healing. At the present time, however, we are restricting the Billroth I operation to those cases where all active duodenal ulcer disease has been removed.

Our primary object in adopting this technique for some of our cases was to see if we could thereby improve the nutritional status of the gastrectomized patient and also diminish the incidence of severe dumping symptoms. Our experience with these 61 patients, 22 of whom had the Schoemaker-Billroth I operation, suggests that these objectives have been achieved. The incidence of dumping syndrome was 13.6% in the patients with gastroduodenostomy as opposed to 42.1% in those with gastrojejunostomy. Whereas only 13.6% of those with gastroduodenostomy failed to gain weight in the follow-up period, 34.2% of the patients with gastrojejunostomy failed to gain weight. It was also notable that following the Billroth I operations patients regained their lost weight twice as rapidly as those who had had some form of gastrojejunostomy. Postoperative complications were far fewer in the group who had had gastroduodenostomy than in the group subjected to Hofmeister-Polya type of resection.

The Billroth I operation is unquestionably an easier and faster operative procedure than any other. It is equally true that we have generally used it for the less seriously ill patients and for the patients who did not have extensive duodenal disease.

In summary, we believe the Billroth I operation has the following advantages over the Hofmeister-Polya procedure:

1. A decrease in the incidence of dumping syndrome;
2. Improvement in the nutritional status of the patient postoperatively, particularly the younger patients whose caloric needs are greater;
3. A decrease in the number and severity of operative and postoperative complications, less likelihood of injury to midcolic vessels, and no likelihood of duodenal fistula, jejunal ulcer, or gastrojejunocolic fistula;
4. Decrease in operating time.

An additional finding in some of our patients may be mentioned, although whether it is beneficial or harmful is not really known. This is the presence of slight delay in gastric emptying which persisted for one to four weeks postoperatively in six out of 22 patients (27.3%), as confirmed by X-ray examination. Two other patients complained of fullness and nausea for one month after operation so that the actual incidence of delay in gastric emptying was 36.3%. Eventually, all of these patients demonstrated normal gastric motility by X-ray. We do not feel that hypoproteinemia or the turning in of too wide a cuff of duodenal and gastric mucosa at operation was a significant factor in the majority of these patients. Instead, it is believed likely that the obstruction was due to a local, temporary disturbance in muscle function at the site of anastomosis, as recently described by Golden[3] in cases of gastrojejunostomy.

A recent issue of "Surgery" contained two consecutive articles describing experience with the Billroth I anastomosis.[4, 5] In one the authors report that in a series of 104 cases, collected over a period of four years, mild dumping symptoms developed in 32.6% of cases but severe dumping syndrome in only one patient. There was no recurrence of the ulcer disease. In the second paper there is reported a series of 65 cases with almost complete absence of symptoms suggesting dumping, but five patients (7.7%) developed recurrent disease. An addendum states that several other recurrences occurred after the paper was submitted for publication. It is interesting that the conclusions reached in these two consecutive papers are almost diametrically opposed to each other. In one paper the author stated that although an effort was usually made to remove the site of the ulcer, this was not felt to be necessary. The other paper contained no statement as to whether the ulcer was removed or not. Both authors agree that the mortality is lower following this operation and that fewer serious complications occur. They also agree that the functional and economic results of the Billroth I operation are better than those of the Hofmeister-Polya procedure.

The incidence of recurrent ulcer disease should theoretically be no more frequent following Billroth I type of procedure than it is following gastrojejunostomy so long as an adequate gastric resection has been carried out. Actually, recurrent ulcer disease should probably be less frequent after the Billroth I procedure. It is recalled that the "no-loop" posterior gastrojejunostomy has been carried out for empirical reasons since about 1900, and the reasons for the lower incidence of jejunal ulcer after this procedure than after an anterior long-loop procedure have been elucidated during the past 20 years by experiments carried out by Mann, Williamson, Bollman, and others. These experiments have shown that resistance of the intestinal mucosa to acid-pepsin decreases progressively the further away from the stomach one makes a gastrointestinal anastomosis. This finding has been repeatedly confirmed in clinical experience, and recent experiments have shown that the further away gastroenterostomy is from the pylorus the higher is the incidence of histamine-induced intestinal ulceration.[6, 7] That the short jejunal loop is comparatively resistant to peptic ulceration is also borne out by clinical reports which show remarkably low incidence of jejunal ulceration following this type of anastomosis.[8]

There is also experimental evidence explaining why a gastroduodenostomy makes possible a better nutritional status than does a gastrojejunostomy. Wollaeger[9] and Everson[10] have shown that fat and nitrogen losses are appreciably less following gastroduodenostomy and esophagoduodenostomy than they are following gastrojejunostomy and esophagoduodenostomy. It is obvious that in restoring continuity of the intestinal tract through gastroduodenostomy, ingested food and fluids are acted upon by duodenal biliary and pancreatic juices in a proper sequence, whereas with a Billroth II operation this is not true. Further, as the physiological mechanisms concerned with the outpouring of bile and digestive enzymes are partly related to the presence of food in the duodenum, gastroduodenostomy would seem to be a more efficient way of reconstructing the gastrointestinal tract. The presence of food and the secondarily increased concentration of secretin in the duodenum result in maximal secretory response of the pancreas. Similarly, conditions are more favorable for effective emptying of the gall bladder and proper admixture of food and bile in a Billroth I type of anastomosis. Similarly, if a Billroth I type of anastomosis cannot be carried out, the processes of digestion are more efficient as the afferent limb of jejunum is made shorter.

Just why the symptoms of dumping are less frequent after gastroduodenostomy than after gastrojejunostomy is not known. Partly it may be due to delayed peristalsis in the duodenum and partly to the fact that the capacity of the duodenum is less than that of the two limbs of jejunum. It also may well be secondary to the same factors as caused the delay in gastric emptying of 36% of patients in the immediate postoperative period as described above.

Our present policy is to carry out subtotal gastric resection of Billroth I technique only if the following criteria can be met.

1. If the diseased area in the distal stomach and proximal duodenum can be completely removed;
2. If the duodenum is of normal calibre and mobility;
3. If a standard three-quarters gastric resection is carried out;
4. If the proximal stomach and open end of the duodenum come together without tension.

It may be worth while to point out that if the duodenal ulcer process is relatively quiescent removal will frequently be found possible, whereas if it is in a state of active inflammation its removal would be fraught with great danger. A final point would be the observation that if, because of severe ulcer diathesis, ulcer disease recurs even though an apparently adequate gastric resection has been carried out, then a second resection should be easier following this type of operation than following a gastrojejunostomy where jejunojejunostomy would represent an additional step.

Summary and Conclusions

Sixty-one cases of subtotal gastrectomy for peptic ulcer, 22 of which were of the Schoemaker-Billroth I technique, carried out during 1951 and 1952 have been reviewed and their follow-up records analyzed.

It was found that the incidence of dumping syndrome and the degree of nutritional disturbances are appreciably less following Billroth I technique than following gastrojejunostomy.

From a study of these 22 cases and a review of the available literature on the subject it is concluded at the present time that a Schoemaker-Billroth I operation has certain definite advantages over the Hofmeister-Polya operation, provided its use is limited by the following considerations:—

Indications For Schoemaker-Billroth I Operation in the Treatment of Peptic Ulcer

1. Almost all cases of benign gastric ulceration;
2. Many benign duodenal ulcers if near the pylorus and if relatively quiescent at the time of operation;
3. Many recently perforated duodenal ulcers if these are found in the first portion of the duodenum;
4. Hypertrophic pyloric stenosis in absence of demonstrable ulcer disease.

Contraindications

1. If the ulcer process in the region of the pylorus is so active as to make mandatory an exclusion operation of the Bancroft-Finsterer type;
2. If the ulcer is in the duodenum and must be left in situ as its removal would endanger pancreas and common bile duct;
3. If chronic peptic ulcer has so scarred, narrowed, and shortened the first portion of the duodenum as to result thereby in unusual narrowing of the planned stoma;
4. If such an anastomosis would result in tension in the suture line.

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SMALL RENAL CELL CARCINOMA PRESENTING AS A SOLITARY CYST

M. Emanuel, M. D.*

The futility of relying too heavily upon textbook criteria to produce without fail an accurate diagnosis of a given disease sooner or later becomes evident to any physician. There are always, the exceptions and the occasional mistaking of one disease for another. There is a mild measure of amusement to be derived from the sharp diagnostic guessing provoked by confronting a group of physicians with an X-ray plate showing a cystic shadow continuous with that of the kidney. Some will conclude it is a cyst and the rest that it is neoplasm. They ultimately agree that the opinions expressed are uncertain, for an exploratory operation often results in finding the opposite condition from that suspected. The unexplored solitary cyst may be a malignancy. An illustrative case in point is presented. It is interesting because a malignant tumor small enough to be overlooked was overshadowed by a moderately large, apparently simple serous cyst.

Space-displacing lesions of the kidney include carbuncle, multiple cysts, multilocular cysts, echinococcus cysts, dermoid cyst, polycystic kidneys, solitary cyst, and neoplasm. The differential diagnosis between any one of these and the others is taken up in detail in numerous excellent dissertations and X-ray texts, but confining ourselves to a cystic shadow at the lower pole of the kidney, a brief discussion of the factors that one might use in evaluating it would be of help in appreciating the problem faced in the case to be presented.

Solitary renal cysts are not too common, but with modern methods of diagnosis they are now found more frequently than in the past. The cyst wall is usually fibrous with a single layer of flat endothelium, which may in part be absent. The contents are usually serous fluid. If bloody, there may be associated neoplasm in 30% of cases; if not bloody, only 2% may be neoplastic. The origin of solitary cysts is not known. It is thought to be either congenital or the result of a local organic lesion causing scarring or change in the blood supply.

On X-ray plates, a smooth, round outline may suggest cyst but does not rule out renal malignancy. The density of the "cyst" is not of conclusive value. It is true that the psoas muscle shadow may be seen through some serous cysts, but a cyst may cast a shadow as dense as that of a malignant tumor. Calcification is more likely to be found with neoplasm and seldom in serous cysts. While neoplasms may produce slight or bizarre distortion of the calyces and pelvis, cysts are capable of doing the same. It is conceded by experienced urologists that an absolutely

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correct diagnosis from pyelography in 100% of cases is not possible. The final arbiter is the microscopic section.

A palpable mass in the abdomen is obviously not diagnostic. Both tumor and cyst may cause pressure symptoms. While pain is more suggestive of tumor, the absence of pain does not mean cyst since some renal tumors, especially in the earlier stages, produce none. Hematuria should cause suspicion of malignancy, but some authors have found it with cyst. The presence of fever is in favor of neoplasm. It should be stated that urologists of note who have written on this subject do not agree on all these points.

Case Report

H. W., age 59, was admitted to Togus on February 3, 1953, with symptoms of prostatism which after systematic urological workup was found to be caused by a nonobstructive enlarged prostate gland and associated chronic prostatitis.

There was no urgent need for prostatic surgery. His referring physician very helpfully included in his letter an X-ray report stating that there was a cystic mass about 6 cm. in diameter at the lower pole of the left kidney. Our own excretion urography confirmed this finding, and it became the chief point of diagnostic interest. Was it a simple serous cyst, which in theory was no cause for anxiety, especially since it caused no discomfort, or was it a malignancy? There was no pain or gross hematuria. The patient was well nourished. The left kidney mass was vaguely palpable. The urine on admission showed: clear, amber, acid reaction, S.G. 1.016, no albumin or sugar, many mucous shreds and 25-30 pus cells per high power field (centrifuged). The blood picture was: Hemoglobin 14.8 gm., RBC 4,680,000, WBC 10,300. Blood urea nitrogen 13.5 mg.%. X-ray of the heart and lungs was normal. There was no fever. B.P., 155/86.

The excretion urography showed excellent function on both sides and suggested normal pyelograms though all the calyces were not well defined. Cystoscopy and bilateral retrograde pyelography were carried out 18 hours after producing a mild retroperitoneal emphysema using about 400 c.c. of air introduced just lateral to the sacrum. The right kidney and its pyeloureterogram were normal. The left kidney was normal in size and position, but at the lower pole its shape was altered by an attached cystic mass about 6 cm. in diameter with which it was continuous. The latter was uniformly round and smooth in outline. Its density was possibly slightly less than that of the kidney mass above it. The left pyelogram was normal except for very slight evidence of compression of the two lowest minor calyces.

Right and left kidney urines obtained by catheters at cystoscopy showed many red cells and some white cells and negative cultures. Thus there was no differential information. Red cells in the kidney urine often result from catheter trauma. The left kidney urine was subjected to Papanicolaou-stain technique. The pathologist reported "numerous epithelial cells with salmon-colored cytoplasm and containing hyperchromatic enlarged nuclei strongly suggestive of carcinoma cells. Diagnosis: Grade IV positive."

Retrograde pyelography done about 18 hours after retroperitoneal emphysema. A left lower pole renal mass causing slight compression of the lowermost minor calyces, is seen.

When presented to the Tumor Board it was felt that the lower pole shadow was most likely a cyst but that exploration was warranted. At operation the kidney was normal in size, color, consistency and contour, except at the lower pole, where an opaque thin-walled cyst about 6 cm. in diameter was attached and growing away from the kidney. In mobilizing the kidney the cyst burst, and its fluid contents escaped. This fluid was watery and hazy rather than clear but definitely not grossly hemorrhagic. The cyst wall was snipped away possibly too close to the parenchyma. This caused some brisk bleeding, which required some mattress sutures and interposition of oxycel and fat to attain good hemostasis.

Because the kidney was apparently normal in all respects except for the relatively small area of attachment to the cyst and the finding of a simple cyst not containing bloody fluid, decision was made in favor of not removing the kidney. However, a small piece

of tissue from the point of attachment to the cyst was resected and sent to the laboratory for a frozen section. The pathologist reported fibrous tissue and a small group of suspicious cells about which no conclusive statement could be made as to the presence or absence of malignancy. The kidney was allowed to remain in the belief that it was normal.

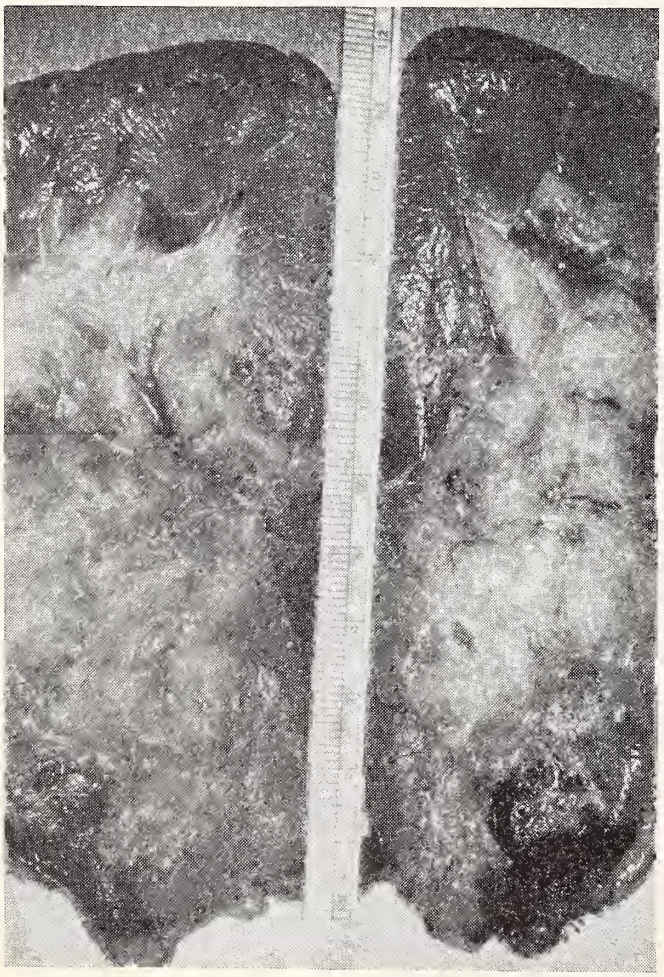
On the following day, the same biopsy used for frozen section, now duly processed by the routine hematoxylin and eosin stain technique brought the following report: "Microsection shows a portion of rather dense acellular fibrous tissue. One edge is lined by flattened endothelial cells evidently the lining of the cyst. In one small area there are tumor cells of the clear-cell carcinoma type (hypernephroma). They consist of rather polygonal and oval type cells having a clear waterlike cytoplasm and containing centrally placed, round nuclei without evidence of mitosis. It is felt these represent a portion of carcinoma which may be a factor in the cyst formation. The carcinoma cells do not invade the lining tissue. Diagnosis: (1) Carcinoma, clear-cell, kidney; (2) cyst, kidney."

Six days after the original exploration a left nephrectomy was carried out. The patient convalesced rapidly and uneventfully. The urinary irritability of his prostatism was minimal and he was discharged from the hospital 16 days later.

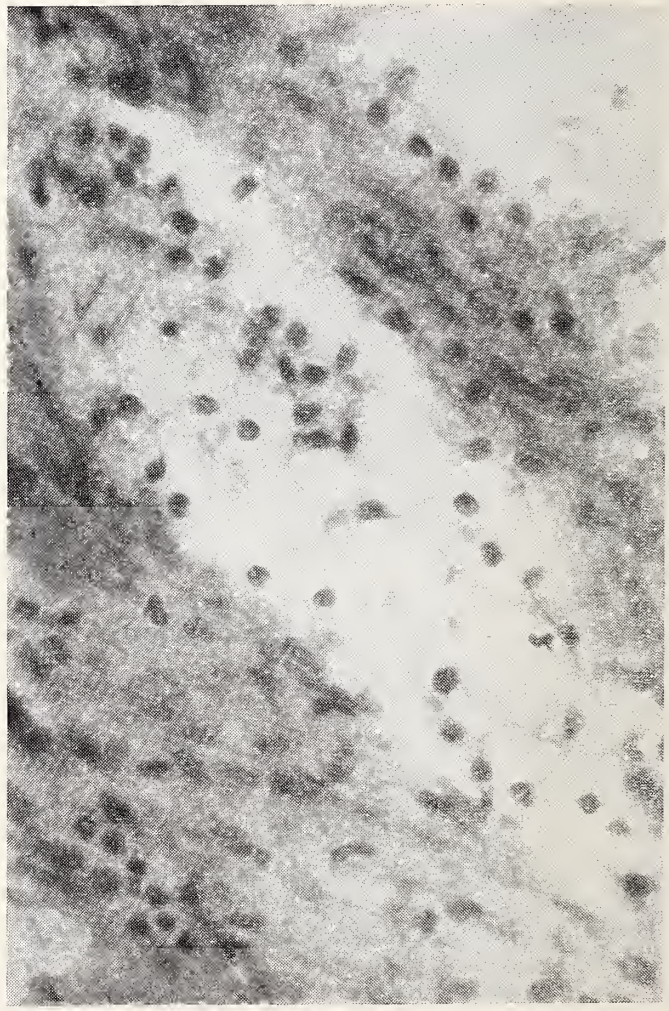
Gross examination of the kidney showed the lowermost portion of the lower pole to be the only abnormality. This area, about 2 by 3 cm. in size, was hemorrhagic and suggested only the traumatic damage incident to the suturing and application of oxycel and fat for control of the bleeding at the first operation. A probe threaded carefully into the lowest calyx entered this area. Numerous serial sections of this discolored area and the adjacent tissue were made. Only in three of the slides were very small groups of tumor cells of the clear-cell type found. Diagnosis was concurred in by the hospital pathologist, Dr. Edward Foote, and two visiting consulting pathologists, Dr. Irving I. Goodof and Dr. F. F. Ferguson. Had there been less operative injury to the site of attachment of the cyst more tumor areas might have been seen.

Discussion

What can be said to set this case apart from others is not that a large cystic mass proved instead to be a



The left kidney cut sagitally showing the traumatized lower pole area from which the cyst was removed.



High power microsection showing a group of polygonal cells having a water-clear cytoplasm together with small round nuclei. In the right upper corner can be seen a portion of the cyst wall.

renal malignancy. One may find a large renal neoplasm instead of a "solitary cyst" not infrequently. Rather it is the fact that at operation what still appeared to be a true serous cyst was found surprisingly associated with an area of malignancy so small it could easily have been overlooked. For completeness it should be mentioned that the combination of large renal-cell tumors and cysts is common. In extensive tumors of this type many large and small cysts may be found. Such cysts usually contain fluid mixed with degenerated tumor tissue and sometimes blood.

This case tends to stress that mere exploration will not always give an obvious answer to the question of whether or not the kidney should be removed. Adequate frozen-section biopsy must be carried out. It must be admitted, however, that in a vascular organ like the kidney this is not the easiest of procedures; and in some cases where the suspicion of malignancy is very strong and the opposite kidney is normal, nephrectomy could be the wiser decision.

What about the positive Papanicolaou report on this patient's left kidney urine? Why was not nephrectomy done on the basis of this report? Our experience with this method is still limited. In the few advanced renal-cell carcinomas removed at this hospital since this technique was introduced, no special aid was given by this method. This background, coupled with the supposed innocent-looking cyst growing out from an apparently normal kidney, was too strong an influence against nephrectomy at the first operation in the face of an indefinite frozen-section report. Further, in defense of such a decision is the constant appeal against removing normal kidneys unnecessarily, as has been done in the past. Incidentally, the precarious help from an inconclusive biopsy is demonstrated.

Summary

The events leading to the conclusive diagnosis of a very small renal-cell carcinoma presenting as an apparently innocent solitary cyst and ultimate nephrectomy are related. Attention is called to the need, not merely of exploring "solitary cysts," but also of carrying out a frozen-section biopsy, and this biopsy must be adequate to enable the pathologist to avoid an inconclusive report. While the Papanicolaou stain technique as applied to urine may not be helpful in every case of renal malignancy, its use should be persisted in since occasionally it may lend strong support. In this case unfortunately a positive report was disregarded. The use of retroperitoneal emphysema in this case as an aid in obtaining clearer shadows of the kidney and retroperitoneal masses is mentioned and demonstrated incidentally.

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METASTATIC CEREBRAL TUMORS

Edward L. Foote, M. D., Chief, Laboratory Service, Veterans Administration, Togus, Maine*

1. Metastatic carcinomas may present symptoms of a cerebral lesion before the primary lesion is suspected. We have had three such cases in a period of eight months. The first case presented prominent psychic symptoms. The second case showed a combination of psychic and vascular accident symptoms and signs. In the third case, clinical signs of a cerebral vascular accident predominated. The metastatic cerebral tumors were unrecognized during the clinical course, and the diagnoses were established at necropsy. I believe that the lesion occurs more commonly than is suspected, and since some of the tumors that most frequently produce brain metastatic lesions are increasing in frequency, it can be assumed that these lesions will increase. Reports from our large clinics indicate that up to 20% of lesions diagnosed as primary brain tumors are shown to be metastatic lesions at operation. Also, 30% of the metastatic brain tumors occur as solitary lesions.

2. The symptoms of a metastatic brain tumor may resemble those of a primary brain tumor, a vascular cerebral accident, encephalomalacia or a degenerative brain disease. The cardinal triad of increasing headaches, vomiting and papilladema resulting from intracranial pressure occurs very late, or not at all. Keiffer has shown that certain types of carcinomas are prone to metastasize to the brain. Among these are bronchogenic carcinoma, G.I. tract, breast, kidney and melanoma. Sonat has shown the importance of the interpretation of psychic symptoms due to brain tumors. The frontal-parietal lesions give symptoms of personality change, impairment of memory, difficulty in concentration, flattening of affect, care-

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lessness in personal appearance, obscene speech, apathy regarding commercial affairs, and a degree of apraxia. To these can be added confusion, aphasia, depression with suicidal tendencies and disorientation. Sonat said hallucinations, visual, olfactory, and gustatory were prominent in temporal and parietal regions. Visual hallucinations occur in occipital regions and somnambulance occurs with tumors involving the floor of the third ventricle. The metastatic lesions may show facial nerve irritation symptoms, convulsions or various paralyses. Some observers report little difference in psychic symptoms between frontal and temporal regions. The diagnosis of a metastatic brain tumor is important in its treatment. The prognosis for the patient is very bad, but removal of a solitary lesion has prolonged life.

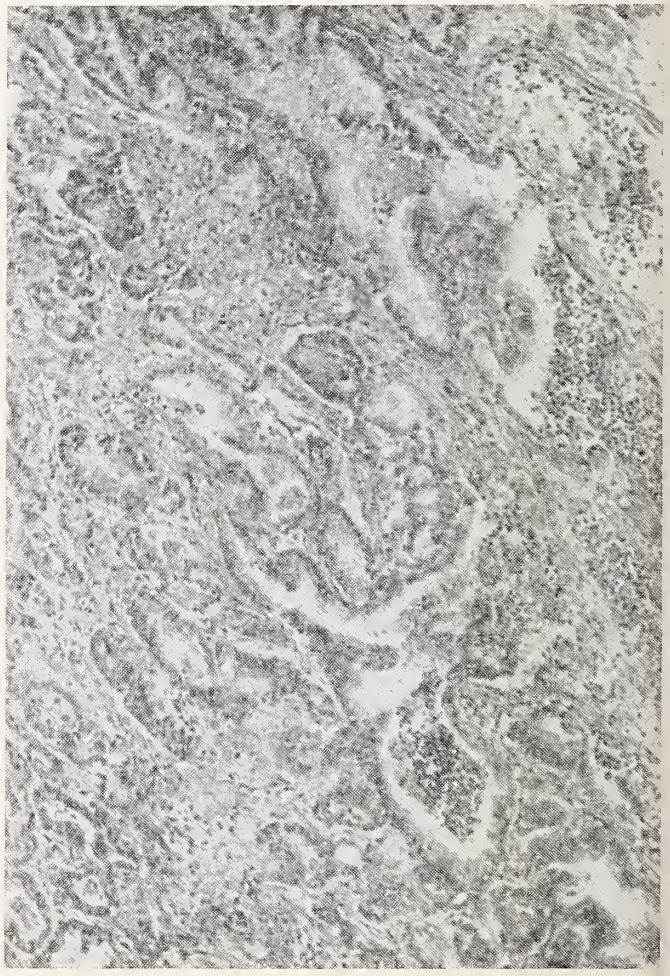
Case No. 1

A 54-year-old white, adult male, was admitted May 24. Two months and 24 days before his admission, he became increasingly tired and absent-minded. No symptoms suggesting a cerebral focal lesion were described. Physical examination and laboratory findings were negative. One month later, he complained of absent-mindedness and severe headaches. At this time the neurological examination was negative. He became depressed and worried about his business and financial status. He was introspective and threatened suicide. During this period his conduct changed from his heretofore good moral conduct, and he exhibited sexual deviations. His depression increased and he became confused and noisy. He was admitted to a mental hospital where he received six (6) electric shock treatments. Following this, he showed lapses of memory, confusion and frequent severe headaches. During a portion of the time he was mentally clear, but at other times had periods of mixed aphasia with difficulty in the use of words. His clinical diagnosis was: Emotional Depression.

He was re-hospitalized two months, 24 days later, and at this time he showed a partial paralysis of the sixth cranial nerve, left. The deep reflexes in his left upper and lower extremities were hyperactive. There was a positive Babinsky on the left. His blood pressure was 160/110, the hemoglobin showed 10.9 grams, and his urine was negative. He became restless, somewhat agitated, childish and emotional, and superficial in his reactions. He showed orientation

Number 1. Case I

Photograph showing one of the discrete tumor metastatic nodules projecting from the surface of the right occipital lobe of the brain.



Number 2. Case I

Microphotograph taken from one of the metastatic cerebral tumors. It shows an adenoma carcinoma structure similar to that of the adeno carcinoma of the stomach.

for the month but not for the day. He had no delusions, but understood orders with difficulty. His memory became impaired. During the latter portions of his hospitalization, he exhibited suicidal tendences, requiring restraint. On June 6, he had projectile vomiting, his RBC was 2.9 million, and the hemoglobin 8.3 grams. He was given blood transfusions. At the time of his death, he was considered incompetent and psychotic. The Clinical Impressions were: 1. Psychosis, confused and depressed type. 2. Cerebral hemorrhage, right, with residuals of left hemiplegia.

Autopsy Diagnoses were: 1. Carcinoma, adeno, stomach. 2. Metastatic brain tumor. 3. Gastric hemorrhage.

At necropsy, the stomach revealed a papillary-adeno carcinoma, arising 6 cms. from the pylorus on the lesser curvature, and measuring 8 x 6 cms. Cut sections showed an ulcerative plateau-like carcinoma with rampart-like nodular borders projecting into the stomach. Death was caused by an acute intragastric hemorrhage. The microsection showed a rather undifferentiated adeno carcinoma, invading the muscular coat of the stomach.

The brain showed multiple carcinoma metastases involving the frontal, parietal, occipital and internal capsule regions. The metastases showed an adenocarcinoma structure similar to those of the stomach tumor.

Case No. 2

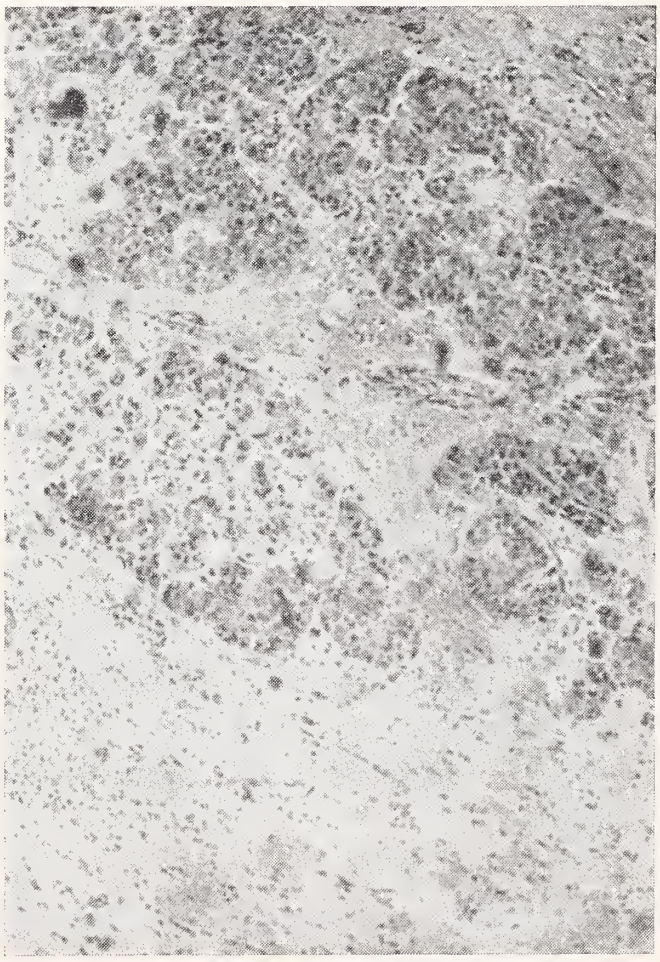
The patient was a 40-year-old, white male, and a business man by occupation. He was unconscious on arrival. The onset of his symptoms were four days prior to admission, when he developed severe headaches and episodes of confusion, as well as intermittent disorientation. He seemed symptom free on the morning of admission, but about 3 P. M. as he attempted to arise from a chair, he collapsed and became comatose. He was spastic, and later became flaccid. Several weeks prior to admission, personality changes had been noticed. These were characterized by tendency to forgetfulness, lack of response to suggestion, tendency to leave his office and go home in the afternoon. He had a history of severe headaches for several months. The family history was non-contributory. His general physical examination and routine laboratory examinations were essentially negative, but the spinal fluid showed the following characteristics: It was clear, the initial pressure was 540 mm., the cell count showed 15 lymphocytes and the total protein was 7 mgs.%. An X-ray of his chest was not done.

He was admitted to the hospital one evening at 11:00 P. M., and expired one hour and 35 minutes later. Clinical diagnoses were: 1. Brain tumor. 2. Brain Abscess. 3. Infectious disease of the Central Nervous System.

Examination of the lung at necropsy showed a carcinoma arising from the right upper bronchus. The part of origin was 2 cms. from the right main bronchus, and the tumor measured 6 x 4 cms., extending to the surface of the lung. The brain showed a metastatic lesion in the frontal temporal region, a discrete firm, yellowish carcinoma nodule, which measured 5 x 3 cms., and resembled the structure of the lung carcinoma.

Case No. 3

A 62-year-old, white adult male, was admitted to the hospital. While driving his automobile, he noticed that his right leg and arm were clumsy and weak. He could not control his car. Following this, there was numbness on the right side of the face. On admission, his physical examination was essentially negative except for the heart, which showed a high pitched systolic murmur. The B. P. was 140/78 and his deep reflexes were hyperactive, the Babinsky was negative, the sensory examination revealed no abnormalities. The laboratory examinations showed the following: CSF total protein 75 mg. His serology was negative; the urine showed 1+ albumin, X-rays



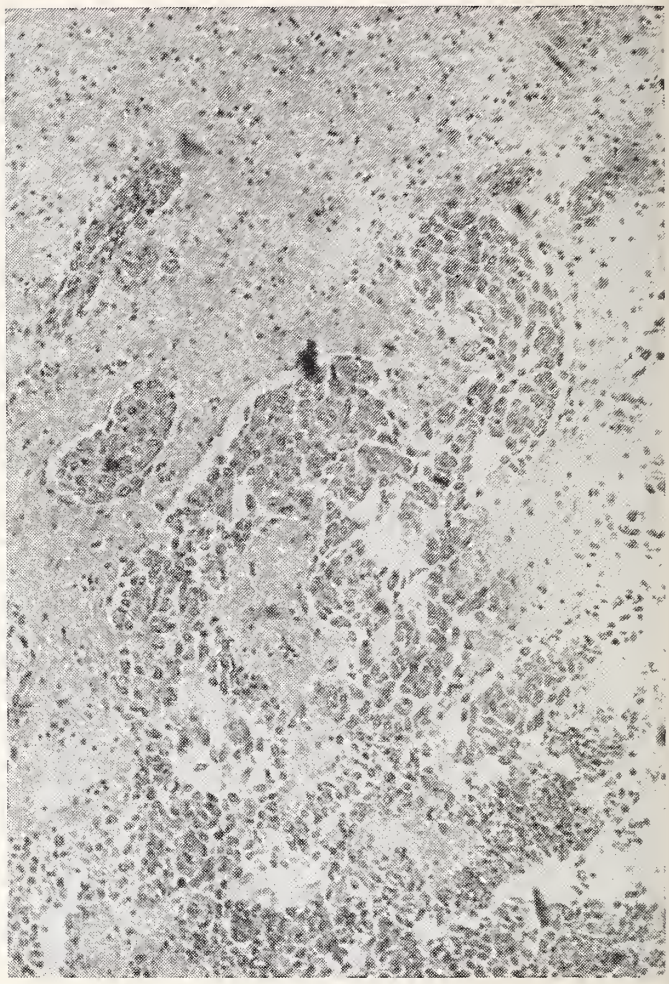
Number 3. Case II

Microphotograph showing the metastatic carcinoma invading the right frontal temporal region of the brain. It has the histological structure of an epidermoid carcinoma, and resembles the structure of a lung carcinoma.

of the heart and lungs were negative. A G.I. Series revealed an old duodenal ulcer. The skull X-ray was reported negative.

Course in Hospital: He was up and about on the ninth day of hospitalization, but on the 20th day he showed increased disability of his left side, and was depressed. On the 23rd day he showed a partial paralysis on the right side, and developed a Babinsky on the right. His conduct was childish, on the 29th day, with a suggestive right facial weakness. His paralysis on the right side became total, and he developed tactile agonsia and kinetic apraxia on the right. He later became unable to talk or swallow, and he was thought to have a thrombus of his basilar artery. Clinical Diagnoses were: 1. Hemiplegia, left and right. 2. Thrombosis, basilar artery.

At autopsy, the brain showed a firm, grey mass in the left frontal, parietal region, this was encroaching upon both the white and grey matter of the cerebrum. The center of the metastases was necrotic and was transformed into a cyst that extended to the wall of the lateral ventricle. On microscopic examination, the tumor was sharply delimited from the adjacent brain tissue. The cells were closely packed, orderly, and were regarded as a metastatic epidermoid carcinoma, the origin of which was bronchogenic; sections of the hilar lymph nodes showed a similar metastatic carcinoma.



Number 4. Case III

Microphotograph shows the structure of a metastatic carcinoma in the left parietal region. The tumor is delimited from the adjacent brain tissue. It has the histological structure of a rather undifferentiated epidermoid carcinoma.

Summary and Discussion

Three cases of metastatic brain tumors have been presented, demonstrating the neurologic and the psychic symptoms resulting from this lesion. Since many of these cases are treated by specialists, it is important that the body as a whole be considered in establishing the diagnosis, rather than the specialty of the consulting physician. Many cases of metastatic lesions show symptoms predominantly those of a psychic disturbance, while others exhibit symptoms of a cerebral accident. It is important to consider a metastatic cerebral lesion in a patient over 50 years of age, who presents obscure cerebral symptoms which cannot be explained on the basis of infection or vascular disease. The diagnosis is established by careful history, and an adequate physical examination with appropriate laboratory and X-ray studies. Unless careful necropsies are done, many of these cases will be undiagnosed and many personality changes, depressions, and periods of uncoöperation on the part of the patient may be attributed to other brain diseases.

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America's Doctors Give To Medical Education: More than one million dollars has been donated to medical education by physicians in the United States since the first of the year. Reports released by the American Medical Education Foundation indicate that approximately 11,000 physicians have contributed $800,000 to the Foundation since January 1. At the same time, records from 33 of the nation's 79 accredited medical schools show that 8,217 doctors have contributed $301,426.42 directly to their alumni organizations. These figures indicate that 9.9 per cent of the nation's physicians have given in excess of one million dollars this year to help alleviate the financial stress in medical education today.

THROMBOEMBOLIC DISEASE — A REVIEW

J. B. Dana, M. D., Togus, Maine*

Introduction:

The following is a brief discussion of the problem of thromboembolic disease; its prevention, its recognition and its treatment.

Now that shock and infection can be prevented postoperatively, not only have venous thromboses and pulmonary emboli become relatively more important but it is also the feeling of some investigators that their incidence has actually increased.[1] Thromboembolism is equally as devastating a complication of non-operative conditions, particularly heart disease.

At the Massachusetts General Hospital where the ratio of medical to surgical admissions is 1:2, venous thrombosis with or without pulmonary emboli occurs in three main groups of patients in the following order of frequency: (1) The medically ill, particularly those with cardiovascular disease, (2) postoperative patients, those following trauma, especially fractures, and after parturition and (3) otherwise apparently healthy individuals with spontaneous development of this disease. The incidence of venous thromboses is three times as high in medical patients as it is in postoperative patients.[2]

It is estimated in some series that venous thrombi occur in 1.3% of all hospital admissions. At the University of Pennsylvania Hospital, phlebothrombosis or thrombophlebitis occurred in 1 of one hundred and fifty-three, non-fatal pulmonary infarction in 1 of four hundred and eighty-seven and fatal pulmonary emboli in 1 of eight hundred and ninety-six postoperative patients. Approximately 1% of all postoperative patients had a thromboembolic complication.[3]

In autopsy material examined by one group venous thrombosis in the deep veins of the leg has been demonstrated in 50% of all patients who had been confined to bed and the number of medical and surgical patients was equal.[4] The two outstanding facts in relation to pulmonary embolus are its preponderance in bedridden patients and its negligible incidence in patients under the age of thirty.

Barker and his group[5] at the Mayo Clinic surveyed one hundred and fifty-eight thousand surgical, gynecological and medical cases and found that 0.57% developed pulmonary emboli and 0.22% developed fatal pulmonary emboli. In a group studied by Ochsner, half of the fatal pulmonary emboli occurred in medical patients.[1]

At the Massachusetts General Hospital in 1946 there occurred approximately one death from pulmonary embolism following every one thousand operations and it has been stated that some thirty-four thousand die annually of pulmonary embolism in the United States.[6]

In one hundred and thirty autopsy proven cases of fatal pulmonary emboli studied at the Boston City Hospital, the predisposing causes were found to be cardiac in forty-eight cases, recent operation in thirty-three, hemiplegia in twenty-two cases, neoplasm in eleven cases, and no predisposing cause in eight cases. The frequency of fatal emboli in hemiplegics was an unexpected finding.[7]

It can be seen from the above mentioned statistics that the problem of thromboembolic disease and pulmonary embolism is a real one and no catastrophe is so vividly and indelibly imprinted on a doctor's memory as the sudden death of a patient from pulmonary embolism, especially a patient that appears to be making satisfactory progress. In the non-fatal cases the high rate of morbidity re-emphasizes the importance of pulmonary embolism.

It has been demonstrated that the majority of venous thrombi begin in the deep veins of the leg and foot and then extend to higher levels. In the one hundred and thirty cases of fatal pulmonary embolism proven by autopsy at Boston City Hospital from 1942 to 1949 the leg veins were the source of emboli in 91%.[7] In another series of one hundred carefully autopsied cases with thromboembolic disease, 73% of the thrombi arose in the large veins of the thigh and pelvis.[6]

Etiology:

The exact cause of the development of thrombotic disease has not yet been clearly defined. It is felt by many that phlebothrombosis is the result of two factors, a predisposing one which consists in increased blood coagulability resulting from tissue injury, and a precipitating factor which consists in circulatory stasis, particularly in the veins of the lower extremities.[1] Trimble and Lynn feel that a review of all the pertinent evidence on development of intravascular clotting implicates venous retardation as the primary cause.[8] Gage, from the Ochsner Clinic, believes that excess platelet formation, occurring after operations particularly, and after tissue injury, is an important factor.[9] Worthy of consideration also is the sludging of blood that occurs in shock, infection, prolonged operation, and the use of certain drugs.

It is of great interest that in five hundred and eighty cases of thromboembolic disease reported by Ochsner,[1] 8% occurred spontaneously in individuals presumably well and going about their activities in

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normal fashion. It is possible that a relatively large proportion of these cases were associated with arterial disease.

Between 50 and 92% of all cases of venous thromboses occur in patients over the age of forty and the incidence of fatal pulmonary emboli increases with age.[9]

Diagnosis:

The clinical significance of intravascular clotting lies not in its development per se, but rather in the fact that the thrombus may well become a source of pulmonary emboli which in many instances might be fatal.

Ochsner and his followers differentiate between thrombophlebitis and phlebothrombosis maintaining that only rarely is thrombophlebitis a source of pulmonary embolization.[1] However, it appears that more and more people interested in vascular disease and its complications consider it hazardous to estimate embolic potential on the basis of a clinical differential between phlebothrombosis and thrombophlebitis.

Clinical observations do not allow one, with any degree of certainty, to forecast those likely to develop embolic disease. There is great need to emphasize that prompt recognition of the phlebitic state with immediate treatment will prevent many a needless death. Many of the cases of pulmonary embolism occur without clinical warning and before life-saving measures can be instituted. It has been stated by Ochsner et al. that in about one-half of all fatal cases no clinical evidence of the presence of conditions which might lead to pulmonary embolism or infarction is present.[1] Others place as high as 80% the number of cases of thrombosis that are undiagnosed before sudden death.

McLachlin and Patterson[6] who, in a previously mentioned autopsy series of one hundred cases, found 73% of thrombi in the large veins of the thigh and pelvis, feel that this location of the thrombi might explain the failure of clinical recognition of the condition.

In 53% of the one hundred and thirty autopsied cases of fatal emboli previously mentioned there were positive leg signs.[7] There are definite signs and symptoms that suggest the presence of thrombosis of the deep veins of the legs and thighs, though it is often stated that there are no reliable premonitory signs. A definite step-like rise of the pulse curve until a maximum is reached, a pulse rate out of proportion to temperature, pain in the calf with or without associated swelling, pain in the groin and positive Homan's sign may all be significant diagnostic features.[9]

Since there is no reliable test for predicting or demonstrating early thrombus formation, reliance must be placed solely on the clinical manifestations, few though they be.

In the presence of all or some of the signs and symptoms previously mentioned, a diagnosis of phlebothrombosis of the deep veins of the leg can be made and treatment should be instituted.

The diagnosis of pulmonary embolism may be equally as difficult, if not more so, than the diagnosis of peripheral venous thrombosis.

The diagnosis of pulmonary embolism is made largely on the basis of symptoms, signs and laboratory findings associated with pulmonary infarction and/or acute cor pulmonale. Acute cor pulmonale, in addition to providing valuable diagnostic signs, indicates grave functional abnormalities, while pulmonary infarction, except when extensive, is of little importance save for the diagnostic signs which are furnished by it.

Local circulatory disturbance, as well as abnormal reflexes, following a pulmonary embolism, may result in atelectasis, edema, hemorrhage, inflammation and necrosis of the lung parenchyma and pleura. If cor pulmonale of an acute type results from pulmonary embolism, one may be confronted with a group of findings which include the following: A prominent pulsation in the second and third intercostal spaces to the left of the sternum; dilatation and pulsation of the jugular veins; cyanosis; accentuation of the pulmonic second sound; at the pulmonic valve area, a loud systolic murmur, sounds resembling a pericardial friction rub, a gallop rhythm and a palpable shock corresponding to closure of the pulmonary valve; and finally dilatation and overactivity of the pulmonary artery and conus under fluoroscopy.[4]

Dyspnea, chest pain and cough are the most frequent symptoms, and fever, tachycardia, abnormal pulmonary signs and peripheral vascular collapse are the most common physical findings in pulmonary embolism. Cyanosis, syncope and hemoptysis, and the various manifestations of acute cor pulmonale, previously mentioned, are less commonly observed.

Chest pain is the most common single manifestation of pulmonary embolism. It occurs in about 75% of the cases. The pain is pleural in about half, and anginal in about a quarter.[4]

Dyspnea is noted by almost half of the patients and may be mild or severe. Even frank pulmonary edema is not uncommon. A characteristic feature of pulmonary embolism is severe dyspnea without obvious evidence of pulmonary or heart disease.

Cough occurs in over one-third and hemoptysis in one-quarter of the cases. Fever occurs in about 67% and tachycardia in over 50%. There may be sharp spikes in temperature or there may be sustained high fever to 103-104 degrees for days or a week or more. Shaking chills are rare.

Pulmonary signs are observed in well over 50% of

cases and are due to atelectasis, preinfarction, infarction and pleural effusion.

Sudden vascular collapse is one of the characteristic features of pulmonary embolism and may be the first indication of trouble.

Wolff, in discussing the problem of pulmonary embolism, states that, contrary to the observations of others, he has been impressed by the frequency and multiplicity of symptoms and signs of pulmonary embolism, and if these are properly appraised, sudden unexpected death from pulmonary embolism should be a much rarer experience than it is.[4]

The electrocardiogram is helpful in the diagnosis of pulmonary embolism. If tracings are taken immediately and repeated daily until the diagnosis is definitely established or excluded, transient electrocardiographic changes will be observed in about 75% of the cases.

Roentgen study may disclose highly significant signs, the most common being areas of plate-like atelectasis and shadows corresponding to areas of preinfarction or infarction. The diaphragm on the involved side is often high and its excursions diminished or absent. Short[10] reported on a radiologic study of pulmonary infarction in one hundred and twenty patients with pulmonary thromboembolism. He found that one of the diagnostic triad, elevation of the diaphragm, an infarct shadow or pleurisy, was present in each case. Half of the infarcts occurred in the right lower lobe and one-third in the left lower lobe. The infarct shadow was only rarely triangular. It took at least twelve hours for changes to be apparent by X-ray and they cleared in two to four weeks.

Leukocytosis occurs in about 70% of the patients and usually is only moderate. The sedimentation rate is increased in all cases, and hyperbilirubinemia occurs in about half of the cases.

The necessity for careful and repeated examination of the limbs, when attempting to establish a diagnosis of pulmonary embolism, is evident. It cannot be emphasized too strongly, however, that embolism should never be excluded merely because phlebitis cannot be demonstrated. In fact, the diagnosis of pulmonary embolism must frequently be made without definite proof of the existence of phlebitis.

A high index of suspicion is the first necessary step for correct diagnosis since there may be very little to suggest the diagnosis of pulmonary embolism. It must be suspected in every elderly, bedridden patient in whom the clinical course is unfavorable, or who develops chest pain of anginal or pleuritic type, or acute dyspnea. It must be considered when a patient with heart failure fails to respond to treatment in the expected manner and when potential candidates for thromboembolic disorders develop any of the many signs and symptoms previously mentioned.

Treatment and Prophylaxis:

At present there is no substitute for the prevention of thromboembolism. It cannot be overemphasized that a policy of watchful waiting for intravascular clotting to appear before treatment is begun is to be vigorously condemned.

It is probable that the incidence of fatal pulmonary embolism can be reduced only by mass prophylaxis, by a clear understanding of the important etiologic factors causing venous thrombosis, or by the development of tests which indicate incipient thromboses so that effective treatment can be instituted.[3]

The search for an objective test that would accurately select patients likely to develop phlebothrombosis following surgery has been prolonged and varied in its approach. No test has yet appeared that has absolute and unequivocal value, and which has been reproducible in the hands of other investigators.

Little has been done about the increased coagulability of blood in patients developing thromboembolic disease, but considerable attention has been paid to general prophylactic measures aimed at correction of circulatory stasis. These measures include the use of compression bandages, active early mobilization, the use of deep breathing exercises, and the like. However, in the experience of Ravdin[3] in Philadelphia and Ochsner et al.[7] these measures have not been strikingly successful, and cases of pulmonary embolism still occur.

Griffith[11] has reported recently on the beneficial effects of anticoagulant treatment in congestive heart failure. In a study of six hundred and twenty-nine patients with congestive failure the mortality incidence of thromboemboli was significantly reduced. Thirty-one percent of patients in an untreated group had unsatisfactory results as compared with ten percent of the treated group. In the treated patients, a statistically significant reduction in thromboemboli was evident in practically all types of heart disease. The various anticoagulants used, which included Depo-heparin, aqueous heparin, dicumarol and Tromexan were all equally effective. Of significant interest is the fact that there was a striking reduction in the incidence of thromboembolism in patients treated with coumarin derivatives when the prothrombin level was kept between forty and sixty percent of normal.

In contrast to the lack of enthusiasm for some of the prophylactic measures that has been expressed by some, the Massachusetts Memorial Hospital group in Boston[12] and Trimble and Lynn from Baltimore[8] have demonstrated the efficacy of elastic compression bandages in the prevention of thromboembolic disease. The series of Lynn and Trimble was made up of patients in whom the risk of developing thromboembolism would, on the basis of experience, appear to be extremely great. In three hundred and ninety-

two patients undergoing four hundred and seventy-six major surgical procedures there were only seven patients who developed signs of thrombosis and one patient who developed a pulmonary embolism. They felt that these results in such a poor risk group warranted the assumption that the incidence of this disturbance was restricted to a minimum level because of elastic compression of the lower legs.

The difficulties inherent in the routine use of heparin and dicumarol precludes their general adoption as prophylactic measures and routine ligation of the deep veins of the legs prior to operation is even less satisfactory. Superficial femoral vein ligation alone does not seem to be basically sound since many of the thrombi arise above the site of the ligation.[2]

Agreement concerning the relative merits of, and the indications for, vein ligations and anticoagulants has not been reached. Each method has advantages and potentialities not possessed by the other. The advantages of the anticoagulants are the following: They are usually effective when properly administered; they are said to inhibit propagation of clots in diseased veins or of emboli lodged in the lungs; they avoid the disadvantages of a surgical procedure; and they obviate the late effects of vein ligation.

The advantages of vein ligation, on the other hand, are: Alleged greater effectiveness in preventing embolism; avoidance of dangers of anticoagulant therapy; its applicability when anticoagulants are contraindicated as they are in patients with bleeding diatheses, liver and renal disease, and in conditions predisposing to serious hemorrhage; the simplicity and brevity of management after the operation is performed; and finally, the avoidance of the need for special laboratory facilities and of the danger involved in delaying emergency surgery required in patients receiving anticoagulants.

A general plan of treatment that might be followed is the administration of anticoagulants — (1) prophylactically in all conditions in which there is a predisposition to phlebitis, providing surgery is not contemplated, and this includes those with congestive failure and myocardial infarction who are confined to bed; (2) for the treatment of thrombophlebitis if surgery is not contemplated; (3) in patients with pulmonary embolism in whom the seat of venous thrombosis is inaccessible to surgery; (4) when emboli continue to occur despite vein ligation; and (5) when a diagnosis of thromboembolism is suspected but cannot be established with certainty.

Superficial femoral vein ligation is indicated — (1) in all patients with acute phlebitis and/or pulmonary embolism if surgery is contemplated; (2) for all patients with thrombophlebitis and/or pulmonary embolism in whom anticoagulant therapy is contraindicated; (3) in patients in whom pulmonary emboli continue to occur, despite apparently adequate anticoagulant therapy; and (4) in the minds of some, for the prevention of pulmonary embolism in elderly bedridden patients about to undergo major surgery.[4, 9, 11, 13, 14, 15]

Conclusion:

In conclusion, it is evident that many important problems relating to thromboembolic disease remain unsolved. The importance of this entire problem has been emphasized. It is difficult to prevent venous thrombosis despite the use of many preventive measures and venous thrombosis in the lower extremities is the most common immediate cause of pulmonary embolism. Valid statistical proof of the value of various methods of treatment is difficult to obtain but, in general, clinical experience would appear to recommend to some extent the previously mentioned therapeutic procedures.

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A BRIEF DISCUSSION OF MYCOSIS FUNGOIDES WITH A CASE REPORT

M. D. Bryant, Jr., M. D., Togus, Maine*

Introduction

Mycosis fungoides was first described in 1814 by Alibert who named the disease pian fongoides because of its resemblance to yaws. The disease is characterized by a severe pruritus, frequently out of proportion to the lesions present and which may precede the lesions by years. The disease has been reported in children as young as 6 years of age but it generally occurs in adults during the later decades, affecting males more frequently than females. The etiology of the disease is unknown. It has been considered as an infectious granuloma due to a virus but this theory has not been corroborated by animal inoculations. It is more generally felt that the disease is a neoplastic process related to the sarcomas, to tumors of the hemopoietic system (leukemia and lymphogranulomatosis) and to the lymphosarcomas.

The clinical course of the disease is customarily divided into three parts: pre fungoid or pre mycotic, the infiltrated plaque stage, and the tumor stage.

The Pre Fungoid or Pre Mycotic Stage: This stage may first become manifest by intense pruritis. The lesions of the skin vary from transitory macular erythema to large localized patches, single or scattered, over the body surface. The surface of the lesions may retain the structure of normal skin or there may be a fine coarse scaling, or oozing may form crusts such as are found in eczematoid dermatitis. These lesions may break out and disappear repeatedly, leaving no permanent change. An individual patch may extend at the periphery, at times resembling a fungus infection of the skin especially when the central portions undergo involution. If scaling predominates, the lesions may simulate psoriasis, seborrheic eczema, parapsoriasis, or pityriasis rosea. This stage of affairs may continue from 3 weeks to several years.

The infiltrated plaque stage may begin at any time. New infiltrated patches may appear or the former macular patches may either become entirely elevated or only thin edges of them may project above the surface of the skin, producing variously-sized, well-defined lesions, usually anular and, in some instances with figure eight lesions which may resemble serpignous syphilides. The plaques have various degrees of infiltration varying at times in this same lesion. The original reddish cover of these lesions may turn to yellowish brownish red and occasionally may be mixed with other discolorations due to hyper and hypopigmentation. Vesicular lesions are uncommon but they occur at times resembling dermatitis herpetiformis. The lesions may coalesce and produce larger patches covering extensive regions of the body surface. On the face they may take on an indulant or acute inflammatory aspect, giving the appearance of leprosy. Partial or complete alopecia of the scalp and other areas may occur. Nails may become dry and ridged and the mucous membranes may be involved. The spleen and lymphatic glands may become enlarged. The skin lesions, while firm, are said to maintain a certain elasticity which is of diagnostic significance. Secondary efflorescence such as scales and crusts are similar to those of the first stage. Continuous regression without scarring may occur in this stage of the disease, although deeply hyperpigmented areas may remain. However, the eruptions generally persist longer than they do in the first stage. The patient may die in this stage but usually after several months or years the condition progresses to the tumor stage.

Fungoid or Tumor Stage:

Tumors of various sizes and infiltrated plaques may appear on apparently normal skin. These lesions enlarge rapidly, at times reaching the size of an orange. The site of predilection is the trunk. The lesions may be oval or round, sessile, or pedunculated. They are always well circumscribed, varying in color from yellowish to bluish red. They may disappear but tend to recur. These tumors tend to break down with resulting ulcerations characterized by an abundant discharge. The margins of these lesions usually retain the characteristics of the intact tumor in the form of an elevated fungoid wall. The crater-like central excavation may be covered with yellowish necrotic debris and the lesions may be painful. Life expectancy at the appearance of these lesions varies from months to about 3 years.

These various stages may be and are usually found concommitantly and, in addition to the three standard stages, there are two atypical forms.

Atypical Forms:

One of these atypical forms, the Vidal and Brocq or mycosis fungoides d'emblee form of the disease consists of the development of cutaneous tumors as the first manifestation with occasionally lesions of the other stage following. This form of the disease is clinically similar to the sarcomatous tumors. The other atypical form is characterized by involvement of the entire skin with a scaling erythema indistinguishable from a generalized exfoliative dermatitis and is known as the erythemoderma type ("homme rouge"). There is often marked associated enlarge-

* From VA Center, Togus, Maine.

ment of the lymph glands which are discrete and do not become fixed to the surrounding or underlying tissues.

The course of the disease is marked by pruritus which is usually present in all stages. With the appearance of nodular lesions, marked eosinophilia and leukocytosis, with a relative increase of the mononuclear leukocytes, is generally found. A slightly intermittent fever may be present in the second stage. Following full development of the tumors septic temperature curves develop and on post mortem lesions of the gastrointestinal tract, lungs, liver, kidney, spleen, and muscles in the form of tumors identical to those of the skin are found. Rarely during the patient's lifetime are symptoms present which are referred to these organs. Systemic symptoms consist of increasing febrile reaction, debility and eventual progression to general cachexia and a stage similar to that of generalized sarcomatosis becoming evident at the start of the tumor stage or shortly thereafter.

Pathology:

The pathological changes in the first stage are not diagnostic. Some acanthosis with elongation of the rete pegs is present. The subpapillary cutis shows an infiltrate consisting mainly of lymphocytes, some histiocytes, occasional eosinophiles, and occasional plasma cells. The vessels are dilated and may be increased in number. Edema and perivascular arrangement of the infiltration are conspicuous. During the second stage of the disease acanthosis is more pronounced and within the epidermis are sharply defined round or oval spaces not of a spongiotic nature, within which are deeply staining lymphocytic cells (mycosis fungoides cells). These collections are known as Poutrier's abscesses. The upper cutis shows dilatation and increase in the number of blood vessels with varying edema. The infiltrate varies in density and is usually confined to the upper corium though occasionally cell concentrations may be found in the epidermis, leading to liquefaction of the basal layer, and the infiltrate may be fused to form a continuous band in close approximation to the epidermis. The infiltrate in this stage is characterized by a marked polymorphism of cells, epitheliod or histocytic in type, with poor cellular definition, the nuclei being large and deeply stained, small round cells, plasma cells of all types, fibroblasts, mass cells, mononuclear leukocytes, and sometimes polymorphonuclear leukocytes are found in a sea of eosinophiles. Mitoses are not uncommon. These lesions are characterized by disintegration of the infiltrating cells resulting in a cellular nuclear debris and "naked" nuclei have a tendency to clump and assume varying shapes. Mycosis fungoides cells are large with deeply staining irregular nuclei with a small rim of cytoplasm. Multi nucleated giant cells containing 2-20 nuclei are present and at times abundant new formation of capillaries may be found at the margins of the lesions. During the tumor stage there is an infiltrate similar to that of the plaque stage. The mycosis cells and giants cells are numerous and there is a loose edematous connective tissue reticulum resulting in an extremely thick epidermis which may finally become eroded and be covered by a parakeratosis or a crust. Eventually the infiltrate may be found extending downward into the deeper cutis and sub cutis.

Treatment:

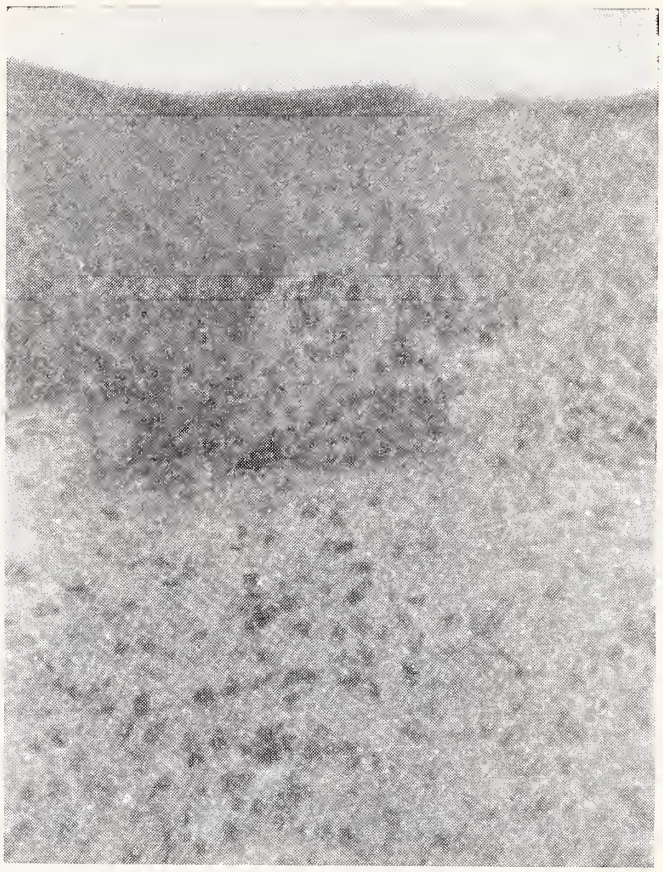
The treatment of choice of mycosis fungoides is considered to be X-ray. It has been noted that small doses often suffice to exert a beneficial effect due to the exceptional sensitivity of the leukocytes. However, at best, the response to X-ray therapy is temporary and no report of cure of disease by X-ray or radium treatment has been recorded.

A diffuse erythematous type of prefungoid eruption may show no benefit at all. Very few cases show little benefit to X-ray therapy with new lesions appearing faster than the old ones disappear and in a matter of a few weeks or months the treatment ceases to be beneficial in any degree. However, more commonly the lesions respond fairly well, regressing within a few weeks and, although new lesions continue to appear, they too respond to treatment and the patient can be kept comfortable for several years. But, in a period of from two to five years the treatment loses its effect and new lesions develop even in locations being irradiated and both new and old lesions fail to benefit and eventually even the pruritus is no longer relieved. Death generally follows in a few months following this development.

It is usual that following treatment the patients remain asymptomatic for a month to a year or two with recurrences amendable to radiation, requiring from several courses each year to perhaps one every year or two or three years. It has been noted that the generalized eruptions of the pre fungoid stage, in apparently exceedingly severe cases, will often clear up and that conversely apparently mild cases may soon become recalcitrant. Treatment consists of the use of superficial roentgen rays and filtration is not felt to be necessary except for large tumors although some authors note that where low voltage and unfiltrated rays are effective that temporary improvement may be obtained from generalized high voltage, heavily filtered X-rays with fractionated doses given to limited areas. In any event where all or the greater part of the body is involved, the body is divided into 3-6 areas and each area is exposed once weekly and not more than 1 or 2 areas are exposed or treated on any one day.

Complications resulting from X-ray therapy are the occurrence of rapid involution with absorption leading to systemic toxemia, toxic rash, septecemia and anaphalactic or protein shock. These complications are

Cross section of skin in Tumor stage showing infiltration and a Poutrier's abscess.



Showing Poutrier's abscess in more detail.

avoidable through the knowledge, ability, judgment and technique of the roentgenologist. An undesirable drop in the lymphocytes and in other blood elements may occur and, because of this it is recommended that differential blood counts be done every two weeks. If the eruption is unyielding to treatment, X-ray therapy should be stopped.

Radium shows no advantages over X-ray therapy except in its application to lesions inaccessible to X-ray.

Nitrogen Mustard which in solution forms a cyclic imonium cation which combines with body tissues (chiefly lymphoid, bone marrow, and enteric mucosa) inactivates certain enzyme systems and causes cell death, an action resembling that of radiation in many respects, is used in treatment of the disease with dramatic but temporary relief. Osborne and Ault suggest that it be tried in preliminary treatment of far advanced, internal or radio resistant lesions, in the hope that Nitrogen Mustard would render the malignant cells more sensitive to X-ray.

Para-aminobenzoic acid has been used with marked improvement reported.

ACTH and Cortisone have been used with variable but temporary results. In case reported in this paper Compound F was introduced directly into the lesions without appreciable beneficial effect resulting.

Urethane is reported as being beneficial but our sources report it as showing little or no effect.

Prior to the advent of the above therapeutic measures arsenic was employed and two cases of permanent cure are recorded in the literature following treatment with this drug. Arsenic is given orally or parenterally. Orally, it was given in the form of Fowler's Solution 2 drops t.i.d., increased to 6 drops t.i.d. and given for 6 to 8 weeks. Parenterally sodium arsenate (1%) in distilled water is given subcutaneously beginning with the dosage of 1/1000 gram and increasing daily to 100 grams in which dosage it is continued 4-8 weeks. Intravenous Asphenamine has also been used.

Antimony has been used and Garb feels that it deserves further trial either alone or with other treatment.

Local treatment with antipuritic ointments may result in some symptomatic improvement. Debility, fatigability and anemia are treated by general supportive measures.

Aside from the two cases reported to have been permanently cured following arsenic treatment (Bergen, Kolner, Gerber) only one other permanent cure is recorded in the literature and this is said to have occurred following erysipelas.

Case Report:

A 54-year-old white male was admitted on 11-3-52 for intermittent itching of both buttocks of 6 months' duration.

The patient had developed soreness in his right upper arm in February, 1952, subsequent to shoveling snow. Shortly thereafter itching lumps, some of which exuded a watery fluid, appeared on the right upper arm. Following the use of Coal Tar Ointment, Penicillin Ointment, and 5 doses of intramuscular Penicillin, in April of 1952, a generalized red, raised, itching rash appeared which, in the course of 2-3 months almost subsided except for the persistence of nodular lesions on the right upper arm. In May a raised lesion the size of a 5c piece appeared on the medial upper aspect of his left thigh. This slowly increased in size, becoming raw and oozing over the course of the next 6 months. Following a biopsy, the patient sought admission to this hospital.

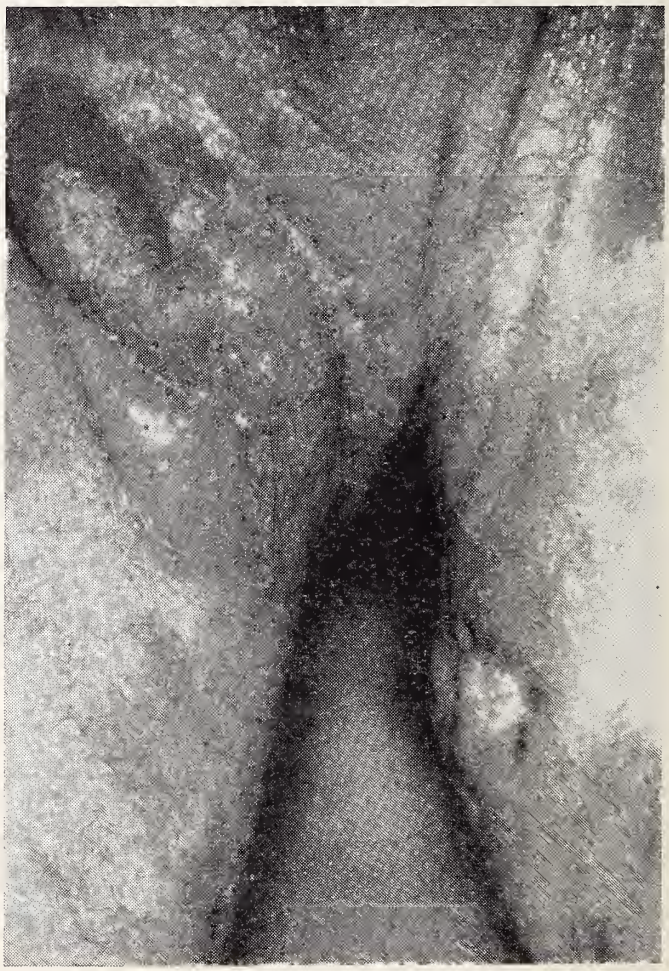
He had had arthritis since 1922, resulting in marked limitation and deformity of his spine; mild attack of asthma; and asymptomatic hypertension. Past history and review of symptoms were otherwise unrevealing. The patient's mother died of tuberculosis at the age of 56.

Examination upon admission revealed an alert, coöperative, well nourished adult white male with marked dorsal kyphosis, limitation of chest expansion, moderate cardiac enlargement, a widely transmitted Grade II systolic murmur, and blood pressure of 244/140. There was a blotchy reddish maculopapular rash with hemorrhagic excoriations over the upper arms, trunk and lower extremities, with the exception of the feet. A sessile, fungating lesion about 3 c.m. in diameter with a vesicular surface and a dry, necrotic center was present in the anterior portion of the right crural region. Bean-sized, nontender, freely movable lymph glands were present in the anterior cervical regions with similar nodes in the left axillary and epitrochlear areas. Inguinal nodes on the left were matted. On the right they were discrete, 1 c.m. in length, and similar in character to the nodes found elsewhere. Chest X-ray revealed the lungs to be normal and Electrocardiogram was within normal limits. Laboratory studies were reported as follows: Blood Kahn negative. Urinalysis normal. White blood count 5900 with 68% neutrophils, 32% lymphocytes. Hemoglobin 13.4 grams. Red blood count 4,480,000. Platelet count normal. Blood urea nitrogen 13 mgm. per 100 c.c.

A biopsy of a nodular skin lesion on 11-20-52 was reported consistent with the diagnosis of mycosis fungoides. On 11-21-52 a course of 4 daily injections of 5, 6, 7, and 8 mgm. of Nitrogen Mustard was begun, resulting in severe nausea and vomiting. On 12-4-52 it was noted that there had been marked regression of the skin lesions and the patient left the hospital. However, he returned 5 days later complaining of chills and fever. Temperature was 103°, pulse 100. Nothing was found on physical examination to account for the febrile reaction. The skin lesions were unchanged. Urinalysis was within normal limits. X-ray of the chest was again negative. The patient was placed on Terramycin and temperature became normal within 48 hours.

There was continued improvement of the patient's dermatitis. Punch biopsy on 12-17-52 showed marked regression of the eosinophilic reaction and absence of many lymphoid cells. At that time approximately 25

Mycosis Fungoides showing plaques and Tumors.



Close up of area shown above, showing central ulceration of Tumor.

Continued on page 220

NORMAN H. NICKERSON, M. D.

President, Maine Medical Association

1953 - 1954

NORMAN H. NICKERSON, M. D.

President, Maine Medical Association

1953-1954

The Maine Medical Association is privileged to start its Second Century of existence under the leadership of Dr. Norman H. Nickerson, who assumed his duties as President at the close of the Centennial Session, June 24, 1953.

Dr. Nickerson was born in the Red Beach Section of Calais, Maine, April 8, 1892, the son of Samuel H. and Ellen Hunt Nickerson. He was graduated from Hebron Academy in 1912, Bowdoin College in 1916 and received his Medical Degree from Bowdoin Medical School in 1919. He interned at the Eastern Maine General Hospital in Bangor.

Dr. Nickerson married Theo A. Grant of Hampden, Maine, in 1921, and in that same year located in Greenville, where he has since carried on his practice as a General Practitioner. The Nickersons have three children, Hiram Hunt Nickerson, Ellen N. Poole and Virginia Nickerson.

He has been an interested and ardent supporter of the Association, having served on numerous Standing and Special Committees, and as Councilor for the Sixth District on two occasions, his first term being interrupted by his enlistment in the U. S. Army Medical Corps in 1942. He is a member of the American Medical Association, a member and Past President of the Piscataquis County Medical Society, which he served for many years as Secretary-Treasurer. He is a Mason and a Kiwanian.

His military record during World War II, from 1942 to 1945, was colorful and distinguished. He was discharged with the rank of Lieutenant Colonel, and was the recipient of a Decoration from the Bey of Tunis; Nichan Iftikhar.

It is interesting to note that Dr. Nickerson's uncle, Dr. Hiram Hunt, was President of this Association at the time of its Fiftieth Birthday in 1903.

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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Robert W. Belknap, M. D.

Dr. Belknap was elected President-elect of the Maine Medical Association at the General Assembly on Monday, June 22, 1953, during the Centennial Session.

Dr. Belknap, who has served as Chairman of the Council during the past year, is a resident of Damariscotta, Maine, and a member of the Lincoln-Sagadahoc County Medical Society.

In Retrospect

The celebration of the Hundredth Birthday of the Maine Medical Association now rests securely in the records of the Association and takes a place in the historical files. The Founders and the good men who gave their faithful support to our organization during a century of change and progress deserve our appreciation. And we enjoyed the opportunity to express that appreciation with a painstakingly prepared special meeting.

To the Officers of the Association and to the Chairmen of the Committees we give thanks. We know that they worked over a long period of time to make the Centennial Meeting a success. Members, young and old, who were called upon to serve accepted the call with good grace and enthusiasm. The officers and members of the Woman's Auxiliary proved to be a strong and energetic factor in bringing special entertainment to the "doctors ladies." We add sincere thanks to all of them.

The group of distinguished speakers, whom we were pleased to designate as "Maine Men," brought to the meeting an array of engaging and scholarly lectures which interested large audiences. We felt a just degree of pride in the accomplishments of the men of medicine who honored us with their presence. We are gratified to have their scientific presentations in the records.

As time passes the younger men in our association will assume the responsibilities as officers. We wish them understanding of the tasks accomplished by their elders and a devotion to the principles stated in the constitution and we wish them good nature and determination to carry on with high purpose our 100 year old association.

A Note of Thanks

An extraneous but very successful and pleasing adjunct to the recent Centennial Celebration was the publication of a Medical Supplement to the June 21st issue of the *Portland Press Herald-Sunday Telegram.*

This ten-page Supplement was devoted entirely to historical and current articles about medical, hospital, and other allied health services in Maine. The articles were almost wholly written by members of the Association and required much research and effort from busy doctors. The Association is deeply indebted to them for their time and work.

We should be negligent if we did not recognize and praise The Gannett Publishing Co., its managers, editors, and reporters for their generous efforts in making this publication possible. The House of Delegates adopted a vote of thanks to them and the JOURNAL is only too happy to publish it.

The 1953 House of Delegates

In an effort to keep the cost of the JOURNAL at the lowest possible figure and still retain its scientific value, the Council has voted not to publish the complete Stenographic Record of the Minutes of the House of Delegates, inasmuch as these records are on file in the Association's office and available to any member of the Association.

It seems fitting, however, to record in the pages of the JOURNAL a brief resume of the meetings of the House of Delegates, held during the Centennial Session in June. We feel too that it should be noted here that there were thirty-eight county delegates eligible to vote in the House of Delegates; twenty-seven of these delegates were present at the First Meeting and twenty at the Second Meeting. We leave it to you to decide whether or not this is a good representation.

Of particular interest to each and every member is the Budget for 1953-1954, which follows:

Executive Secretary's Office:	
Salaries:	
Executive Secretary	$ 7,000.00
Social Security	54.00
Stenographer	2,080.00
Social Security	31.20
Travel and Office	3,000.00
Secretary-Treasurer's Office:	
Salary	4,000.00
Social Security	54.00
Travel	200.00
Office	1,500.00
General:	
President's Expenses	425.00
Committees:	
Medical Advisory	1,000.00
National Education	500.00
Other Committees	200.00
Council	600.00
Delegates, New England Med. Societies	300.00
Delegate, A. M. A.	500.00
New England Medical Council Dues	100.00
Annual Session	2,000.00
Clinical Session	200.00
Woman's Auxiliary	150.00
JOURNAL:	
Printing, Plates, Office	10,300.00
Editor's Salary	500.00
Total	$34,694.20

In accordance with the By-Laws, the Council drew up a proposed budget, based on an estimated income of $34,637.50, which was presented to the House of Delegates at the Interim Meeting in April and which, with one exception, was approved for presentation and final action at the annual meeting. (The one exception was the added amount of $150.00 for the Woman's Auxiliary.) Consequently, the county delegates had the above figures in their possession for the required sixty days prior to the annual session. And, while on the subject of finances, we want to call your attention to the Auditor's Report for 1952-1953, which is published in this issue of the JOURNAL.

At this same meeting the Proposed Amendments to the By-Laws as published in the April issue of the JOURNAL, page 104, were approved.

At the Second Meeting of the House of Delegates the report of the Nominating Committee, which presented candidates for Standing Committee members for 1953-1954, was approved. The report of this committee appears elsewhere in this issue.

And at this session of the House, Dr. Francis A. Winchenbach of Bath, was elected Councilor for the Third District and Dr. Maurice E. Lord of Skowhegan, Councilor for the Fourth District.

Reports of Officers, Committee Chairmen and Delegates, as presented at the House of Delegates, will be published in the JOURNAL; the first of these in this issue.

STANDING COMMITTEES — 1953-1954

The Nominating Committee presented the following nominees for the Standing Committees for 1953-1954, who were elected at the Second Meeting of the House of Delegates at the Centennial Session of the Maine Medical Association at Portland, Maine, June 22, 1953.

NOMINATING COMMITTEE

First District, JOHN R. LINCOLN, M. D., Portland.
Second District, PAUL E. FLOYD, M. D., Farmington.
Third District, STANLEY R. LENFEST, M. D., Waldoboro.
Fourth District, ALLAN J. STINCHFIELD, M. D., Hallowell.
Fifth District, PHILIP L. GRAY, M. D., Blue Hill.
Sixth District, RICHARD C. WADSWORTH, M. D., Bangor, *Chairman.*

Scientific Committee

Ralph C. Stuart, M. D., Guilford (1 yr.), Chairman
J. Robert Downing, M. D., Kennebunk (2 yrs.)
Francis Sleeper, M. D., Augusta (3 yrs.)

Committee on Medical Education and Hospitals

Charles F. Branch, M. D., Lewiston (1 yr.), Chairman
George L. Maltby, M. D., Portland (1 yr.)
Milan A. Chapin, M. D., Auburn (2 yrs.)
John R. Lincoln, M. D., Portland (2 yrs.)
Richard C. Wadsworth, M. D., Bangor (3 yrs.)

Medical Advisory Committee

Allan Woodcock, M. D., Bangor, Chairman
Carl M. Robinson, M. D., Portland
C. Harold Jameson, M. D., Rockland
Philip L. Gray, M. D., Blue Hill
Thomas A. Martin, M. D., Portland
Oscar F. Larson, M. D., Machias
Gerald H. Donahue, M. D., Presque Isle
The Secretary, ex-officio

Public Relations Committee

M. Tieche Shelton, M. D., Augusta (1 yr.), Chairman
Ralph A. Goodwin, M. D., Auburn (1 yr.)
Forrest B. Ames, M. D., Bangor (2 yrs.)
Gilbert Clapperton, M. D., Lewiston (2 yrs.)
Irving I. Goodof, M. D., Waterville (3 yrs.)

Legislative Committee

Clyde I. Swett, M. D., Island Falls (1 yr.), Chairman
Stephen A. Cobb, M. D., Sanford (1 yr.)
M. Tieche Shelton, M. D., Augusta (2 yrs.)
Francis A. Winchenbach, M. D., Bath (2 yrs.)
Wilson H. McWethy, M. D., Augusta (3 yrs.)
W. Mayo Payson, Portland, Clerk

Rural Health Committee

Stanley R. Lenfest, M. D., Waldoboro (1 yr.), Chairman
Wallace E. Viles, M. D., Turner (1 yr.)
Philip B. Chase, M. D., Farmington (2 yrs.)
Harvey C. Bundy, M. D., Milo (2 yrs.)
Howard R. Milliken, M. D., Hallowell (3 yrs.)
Clement L. Donahue, M. D., Caribou (3 yrs.)
W. Mayo Payson, Portland, Clerk

Board of Ethics and Discipline

Howard L. Apollonio, M. D., Rockland (1 yr.), Chairman
Foster C. Small, M. D., Belfast (1 yr.)
Gordon N. Johnson, M. D., Houlton (2 yrs.)
John A. Greene, M. D., Rumford (2 yrs.)
Philip P. Thompson, Jr., M. D., Portland (3 yrs.)
Frederic B. Champlin, M. D., Waterville (3 yrs.)

Investment Committee

Warren E. Kershner, M. D., Bath, Chairman
Elton R. Blaisdell, M. D., Portland
Emerson H. Drake, M. D., Portland

Health Insurance Committee

William F. Mahaney, M. D., Saco (3 yrs.), Chairman
Kenneth J. Cuneo, M. D., Kennebunk (3 yrs.)
Kenneth W. Sewall, M. D., Waterville (3 yrs.)
Eugene E. O'Donnell, M. D., Portland (2 yrs.)
Linus J. Stitham, M. D., Dover-Foxcroft (2 yrs.)
Francis A. Winchenbach, M. D., Bath (2 yrs.)
Clyde I. Swett, M. D., Island Falls (1 yr.)
William V. Cox, M. D., Auburn (1 yr.)
Alvin A. Morrison, M. D., Portland (1 yr.)
W. Mayo Payson, Portland, Clerk

Committee on Credentials

Storer W. Boone, M. D., Presque Isle (3 yrs.), Chairman
Paul D. Giddings, M. D., Augusta (2 yrs.)
Benjamin Zolov, M. D., Portland (2 yrs.)
Waldo A. Clapp, M. D., Lewiston (1 yr.)
Robert L. Allen, M. D., Rockland (1 yr.)

1952-1953 COMMITTEE REPORTS*

Committee on Conservation of Vision

HOWARD F. HILL, M. D., *Chairman*

A meeting of this Committee was held at the last regular meeting of the Maine Medical Association.

It was agreed to carry on our work with the Health and Welfare Department, and this seems to be our principal duty. We act with them, particularly Mrs. Murchie and the Department of Aid to the Blind, in an advisory capacity.

Amy W. Pinkham Fund Committee

CLAIR S. BAUMAN, M. D., *Chairman*

Serving on the Amy W. Pinkham Fund Committee this year, beside myself, were Virginia C. Hamilton, M. D., Bath; Albert M. Carde, M. D., Milo; Norman H. Nickerson, M. D., Greenville; Thomas A. Foster, M. D., Portland; Ella Langer, M. D., Augusta; and Philip G. Good, M. D., Portland.

Notification as to what moneys are expended for the prevention of malnutrition and tuberculosis comes from Mr. Wells, Executive Secretary of the Maine Tuberculosis Society. Thus far the following schools have received financial assistance from the Amy W. Pinkham Fund since June, 1952:—

Welchville School, Oxford—Refrigerator, September 30, 1952—Amount, $250.00.

Pleasant Ridge School, Caswell Plantation—Refrigerator, October 3, 1952—Amount, $250.00.

West Paris School, Paris—Range, October 27, 1952—Amount, $245.00.

Town of Trenton School, Ellsworth—Refrigerator, January 28, 1953.

Then there was one other school in Limington concerning which we have not received final notice of their having received financial help.

Diabetes Committee

ELTON R. BLAISDELL, M. D., *Chairman*

During the week of November 16, 1952, National Diabetes Week, which opened the American Diabetes Association's Detection Drive, was again held under the auspices of the State and County Medical Societies with the aid of local hospitals, physicians, and nurses.

Out of a total of 3,084 urines examined in the State during the Drive, 22 were reported as positive. There were no follow-ups as the names of all positive reactors were sent to the family physicians, and no money was available for blood sugar analyses.

It is the opinion of the Committee that this is a worthwhile project which should be carried out on a County Society level where all interested physicians could be given an opportunity to take part in the Drive. The National Committee has again been approached for funds to enable us to do blood sugars on the positive reactors, but so far there is no money allotted to the different states for this purpose. The Ames Company has, however, supplied, without charge, a sufficient number of Clinitest tablets for urine examinations.

The Cumberland County Medical Society at its last meeting voted to allocate $100.00 to assist in our coming 1953 Annual Drive. This should be extremely helpful in keeping at least a good part of the Diabetes Detection Drive in the hands of Doctors of Medicine in Cumberland County.

Committee on Mental Health

MARGARET R. SIMPSON, M. D., *Chairman*

During the past year three local Mental Health Associations have organized in Maine. These are lay groups interested in furthering mental health in their communities. It is urged that physicians acquaint themselves with the work of these groups and assist them in their planning for better community mental health services. The three local groups are:—

The Southern Maine Mental Health Association.

The Androscoggin Valley Mental Health Association.

The Eastern Maine Mental Health Association.

A very successful Epilepsy Institute was held at the Maine General Hospital in Portland on May 19, 1953. It is urged that other centrally located hospitals consider the same type of program and work out plans for it with the Public Health Education Consultant in the State Bureau of Health.

Cancer Committee

FORREST B. AMES, M. D., *Chairman*

There are three groups in the State with major interest in cancer:—

1. The Maine Medical Association Committee on Cancer.
2. The Maine Cancer Society.
3. The State Department of Health and Welfare.

Correlation of activities of these three groups has steadily improved during recent years, both by personal communications and contact meetings.

The report of the Chairman of the Cancer Committee of the Maine Medical Association for 1951-52 was published in the June, 1952, "Journal." This report listed in detail the various facilities offered in the field of lay and professional education and in aid to cancer patients in the various hospital clinics.

During the past year it would appear that much effective work has been done by the Maine Cancer Society, especially along the lines of lay education and personal aid to cancer patients.

Use of educational opportunities by the doctors of the State, and more efficient organization of the Tumor Clinics, especially along statistical lines, leaves much opportunity for further progress.

The members of this year's Committee have been approached by questionnaires. Highlights of this type of conference suggest the following:—

1. Throughout the State the organized Tumor Clinics in the various hospitals are functioning efficiently so far as patient study and treatment are concerned.

2. In a few hospitals a Tumor Committee has been formed. This is a consultative group and functions by request. It is suggested that the formation of such a Committee should be undertaken by each of the present Tumor Clinic groups.

3. Records. Suggestion has been made many times that uniform clinic records be used. The State Association of Pathologists have been working on this question and cooperation with heads of the various Tumor Clinics would help organize this effort and place statistical studies on a common basis of medical accuracy.

4. Cancer "teams." The question of using organized groups for Clinics and lectures in different parts of the State has been discussed. Such groups have been set up in the past along various lines of medical activity. Funds are available for key specialists and for travel. Interest in the County Societies has not been sustained. However, the present Cancer Committee feels that much valuable medical teaching can be made available to the doctors throughout the State. County Secretaries should familiarize themselves with speakers available for papers before their local group and make use of these services.

5. Postgraduate work. It is again emphasized that funds and grants are available from State funds and the Maine Cancer Society for postgraduate work in cancer at the large medical centers. Members of the Maine Medical Association are urged to give thought to this matter and plan to use the financial help offered.

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* Presented at the Annual Meeting of the M. M. A. House of Delegates, June, 1953.

In general, it may be stated that the cancer patients in Maine are receiving skilled attention in the Tumor Clinics, and the laity are becoming more and more cancer conscious through educational means, especially through the Maine Cancer Society. Further use by the doctors of graduate courses, and of the clinics of uniform statistical reports, will further foster progression in the cancer field.

Committee on Civil Defense

CHARLES W. STEELE, M. D., *Chairman*

This Committee met last year in June at Rockland just prior to the Annual Meeting of the Maine Medical Association and it was agreed that the emphasis for the next twelve months should be placed on putting into final effect the recommendations made by this Committee over the past four years. Five years and two months have elapsed since Dr. Stephen Cobb appointed the first Committee on Civil Defense of the Maine Medical Association, and during this interval of time your Committee has worked diligently to provide the State Civil Defense Director and the Governors of Maine with sound advice about the type of medical, public health and special weapons defense plan and organization that would best meet the future needs of this State in event of a major natural or an enemy inflicted disaster. This Committee is proud to be able to report to the Maine Medical Association that the State Medical, Public Health and Special Weapons Defense Plans have been completed and that every major recommendation made by your Committee over the past five years has been incorporated into these State Civil Defense plans. The complete (revised) State plan has just been published and arrangements have been made for each member of this Association to receive a copy.

The members of the Maine Medical Association are in a most enviable position, for no other Medical Association in the nation has had such an influential part in formulating the Medical, Public Health and Special Weapons Defense Plans for their State. The situation in this State is unique in the following respects:—

First:—In no other state does so large a number of the members of the Committee on Civil Defense of the State Medical Association hold key positions in the State Civil Defense organization.

For example:—

The Chairman and the Deputy Chairman, Dr. Albert Moulton, of your Committee, are Deputy Civil Defense Director #3 and Alternate Deputy Civil Defense Director #3 in charge of Medical, Public Health and Special Weapons Defense for Maine. The other two original members of your Committee, Dr. Harry Butler and Dr. Ralph Getchell, are serving as Assistant State Deputy Civil Defense Directors #3 and will function in time of disaster as Field Directors for the northern and for the southern halves of this State. Dr. Richard Wadsworth is also serving as an Assistant State Deputy Director #3 and is responsible for the procurement and stockpiling of blood and plasma and the training program for bleeding and processing teams in Maine.

Four members-at-large of this Committee are also serving effectually as Assistant State Deputy Directors #3. Dr. Clark Miller advises the State Deputy Director #3 in regard to the professional aspects of atomic defense. Col. O. H. Stanley, M. C. (Retd.), is serving as Administrative Assistant on the staff of General Bisbee, the State Civil Defense Director. Dr. Charles F. Branch heads up the Biological Warfare Section of the Special Weapons Defense organization. Finally, Dr. Dean Fisher, Director of the Bureau of Health and Welfare, will have a vital role in the administration of the public health organization in event of disaster.

Two other members of the Committee on Civil Defense of the Maine Medical Association have served as County Deputy Civil Defense Directors #3. Dr. Harold E. Small served as Medical, Public Health and Special Weapons Defense Director for Kennebec County until he left Augusta for California a few months ago.

Oxford County has been fortunate to have Dr. Garfield Defoe draw up the Medical and Public Health plans and to serve as Deputy Director #3 as he did during World War II. The Oxford County plan has served as a model for other Counties in Maine.

Dr. Frederick Dennison and Dr. M. Allan Torrey, the other two District members of this Committee, have ably assisted the #3 Deputy Civil Defense Directors in the Counties in their respective Districts and they have made many valuable suggestions at the meetings of this Committee in the past.

Dr. Roscoe L. Mitchell, former Director of the Bureau of Health and Welfare, reviewed the State Public Health Plan prior to its acceptance by General Bisbee. He has served as consultant to the State Deputy Director #3 in matters pertaining to public health planning.

Androscoggin, Cumberland, Franklin, Hancock, Knox, Oxford, Penobscot, Washington, Waldo and York Counties have completed Medical, Public Health and Special Weapons Defense plans which have been fully approved as adequate by the State Civil Defense Director. Aroostook and Kennebec Counties should have their Medical, Public Health and Special Weapons Defense plans completed and in acceptable form by the early Fall of this year.

Lincoln and Sagadahoc Counties have plans which are not entirely complete, and, hence, could receive only partial approval thus far by the State Civil Defense office. The County Deputy Civil Defense Directors #3 for Piscataquis and Somerset Counties have not as yet prepared and submitted a Medical, Public Health and Special Weapons Defense plan.

The State Civil Defense Medical Staff has held joint meetings with the Civil Defense Medical Staffs of Androscoggin, Cumberland, Penobscot and York Counties during the past six months. The District representatives and the Members-at-Large on this Committee were invited to attend the joint meetings of the State and County Medical Staffs that were held nearest their respective residences.

Either Colonel O. H. Stanley or the Chairman of your Committee has personally visited and held a conference with the Deputy Civil Defense Director #3 for each of the remaining Counties within the State.

Second:—Maine doctors have established another enviable record. Colonel Stanley reports that the State Civil Defense office has the names of 490 Maine doctors who have been given and have accepted specific Civil Defense assignments. It is believed that there are probably other doctors in Maine who have accepted Civil Defense assignments which have not as yet been forwarded to the State Civil Defense office.

Third:—Few, if any, other states have Committees on Civil Defense that have coöperated so well with the State Committees on Civil Defense of the closely allied professions such as hospitals and nursing, dentistry, and pharmacy. The Chairman of the Committee on Civil Defense of each of these allied organizations has been appointed as an Assistant State Deputy Civil Defense Director #3 by the Chairman of your own Committee on Civil Defense. This arrangement has secured the full coöperation of all of these allied organizations and has made possible the coördination of the Civil Defense activities of all these groups in a more effective manner than could have been accomplished in any other way. All these organizations have contributed their full share to Civil Defense planning in Maine and their members are accepting Civil Defense assignments in a fashion that is most gratifying.

As a result of the carefully made plans presented to the State Director by the Committees on Civil Defense of your own and of the related professional organizations, and the willingness of the members of all organizations to accept their responsibilities, Maine has a Civil Defense Medical, Public Health and Special Weapons Defense plan and organization equal to that of any other State in the United States. This Committee wishes to take this opportunity to thank the Committees for Civil Defense and the members of these closely allied organizations and the members of the Maine Medical Association for their assistance and their coöperation.

The members of this Association may be interested in the present status of stockpiling of medical equipment and supplies by the State Civil Defense Agency. Please bear in mind that Maine has no cities that have been designated as primary atomic targets by our own Department of Defense, and for that reason Maine has not been eligible for nearly as much in the way of medical supplies (on a 50-50 matching basis with State and Federal funds) as are states with atomic target cities. The presence of large military installations like Limestone Air Field and Brunswick Naval Air Station are not considered by FCDA despite the fact that the State Civil Defense Agencies would have to go to their assistance in event either installation was subjected to an atomic attack. Not all of the funds set aside by the previous Legislature, for matching purposes, could be utilized because of our inability to qualify for a sufficient quantity of emergency equipment and supplies, but application was made for all that we are entitled to by FCDA standards and we have actually fared fairly well as shown by the following listing of major items:—

Radiological detection instruments in sufficient quantity to equip five atomic survey units have already been procured by the State Civil Defense Agency and have been assigned to the five colleges in Maine that have agreed to sponsor and train such teams. A new type portable shower unit for the decontamination of personnel has been built for demonstration and training use and will be on exhibit at the Centennial Meeting in Portland.

Seven hundred-fifty units of dried plasma have been purchased by the Department of Health and Welfare and stored at Augusta. Sixty units of this dried plasma were flown to Worcester, Massachusetts, the day after the natural disaster struck that city on June 9, 1953. Four hundred seventy-five complete Baxter transfusion units have been purchased and are stored at Augusta. A large number of blood typing units, with typing sera, etc., are on order.

Approximately 60% of the medical supplies and equipment that goes into the twenty-six large First-Aid Stations, approved on a 50-50 matching basis through FCDA, has arrived in Augusta. Storage boxes have been made and this first-aid equipment will be sorted and placed in the boxes ready for emergency distribution and use. Finally, a 200-bed emergency mobile hospital unit has been approved for purchase on a 50-50 matching basis and will be stored at Alfred when the equipment and supplies are delivered.

Finally, the Chairman of your Committee represented the Maine Medical Association and the State of Maine at the following national and regional meetings:—

(1) The 3rd Annual Conference of County Medical Societies held at Kansas City, Missouri, on 13-14 December, 1952;

(2) The Conference of State Medical Representatives of Civil Defense, Region I, held on 3 March, 1953, in New York City. (Your Chairman was asked to lead the discussion concerning "The Relation of Community Hospitals to the Formation of Casualty Services in Maine.")

(3) The Medical Civil Defense Conference in New York, 31 May, 1953, sponsored by the Council on National Emergency Medical Service, American Medical Association. (Your Chairman was requested to lead the discussion on the following subjects:—

a. Procurement of chemical agent detection kits from the Chemical Warfare Department for use by State Civil Defense Agencies.

b. Simplification of the FCDA Manual on "Disaster Interim Operating Procedures.")

The Maine Medical Association has been honored by having the Council on National Emergency Medical Service of the American Medical Association recommend, and in having Mr. A. D. O'Connor, Regional Director, FCDA (Region I), appoint the Chairman of your Committee on Civil Defense to be a member of the Regional Medical Council. The Regional Medical Council has been organized to advise the Regional Medical Director and is composed of a representative each from the Hospital Association, the Dental Association, the Pharmaceutical Association, and from other allied professional groups.

The next meeting of the Committee on Civil Defense of the Maine Medical Association will be held at The Eastland Hotel, 21 June, 1953. Any further recommendations made by your Committee will be provided in a supplement report to be made available to the President at the earliest feasible time after this final meeting.

Committee on Industrial Health

Frank W. Barden, M. D., *Chairman*

A called meeting of the Committee was held in Waterville during the Interim Meeting of the Association in October, 1952. This was attended by two members of the Committee and the Chairman. Various topics were discussed — the big one being on the subject of "how to get more postgraduate study of industrial health to the general practitioner who is doing over 95% of the industrial practice in the State." Many views were presented — especially those reported by the Chairman, who attended the United States President's Conference on Industrial Health and Safety in Washington, D. C., in June of 1952.

The Chairman also attended the AMA Conference on Industrial Health held in Chicago in January, 1953, and the AMA Section on Industrial Health in New York in June of 1952.

All conferences stressed the need for State and County Medical Societies to broaden their postgraduate training on industrial health.

Three definite recommendations are submitted to the President for his consideration:—

1. Encourage more sessions on industrial health at the State and Interim Meetings of the Association.

2. Suggest to the component County Societies that they hold at least one County meeting which is devoted to the subject of industrial health and hygiene.

3. Any member who would be willing to participate on programs submit his name and subject to the Committee on Industrial Health in order to set up a panel of available speakers.

(Reports from other Committee Chairmen will be published in later issues of the Journal.)

AUDITOR'S REPORT

JOSEPH STILLMAN
Certified Public Accountant
97a Exchange Street
Portland 3, Maine

June 15, 1953.

MAINE MEDICAL ASSOCIATION,
142 High Street,
Portland, Maine.

Gentlemen:

I have examined the accounting records of the Maine Medical Association for the fiscal year ended May 31, 1953, and all related data and information pertinent thereto. I have found the records to be in order and all funds properly accounted for.

In my opinion, the enclosed Exhibits, Balance Sheet and Statement of Income and Expense, with supporting Schedules, present the true financial condition of the Maine Medical Association as of May 31, 1953, and the results of its operation for the fiscal year then ended.

Yours truly,

JOSEPH STILLMAN.

EXHIBIT A

Maine Medical Association
Balance Sheet
As At May 31, 1953

ASSETS

Cash in Banks (See Schedule III)		$19,565.82
Accounts Receivable:		
Dues	$627.00	
Membership JOURNAL Subscriptions	38.00	
Advertising — JOURNAL	818.82	
		1,483.82
Securities (See Schedule VIII)		17,069.83
Furnishings and Equipment		1,092.59
Accrued Interest Receivable		222.52
Prepaid Expenses:		
Centennial Session	$483.73	
Executive Secretary — American Medical Association Meeting	100.00	
Postage and Mailing	14.59	
		598.32
Trust Fund Investments (See Schedule II)		3,713.38
Total Assets		$43,746.28

LIABILITIES

Accounts Payables	$ 945.22	
Due for Social Security and Withholding	252.27	
Due for American Medical Association for Dues Collected	875.00	
Deferred Income:		
Convention Exhibit Space	1,695.00	
Total Liabilities		3,767.49
Excess of Assets over Liabilities		$39,978.79

CAPITAL AND FUNDS

Capital Account (See Schedule I)	$36,265.41	
Trust Funds (See Schedule II)	3,713.38	
Total Capital and Funds		$39,978.79

EXHIBIT B

Statement of Income and Expense
For the Year Ended May 31, 1953

INCOME

Dues	$22,031.50	
JOURNAL (See Schedule IV)	9,941.58	
Annual Session (Exhibits)	2,134.00	
Investments (See Schedule V)	731.76	
American Medical Association for Collection of Dues	139.70	
Total Income		$34,978.54

EXPENSE

Executive Secretary's Office (See Schedule VI)		$11,839.95	
Secretary-Treasurer's Office (See Schedule VII)		5,686.40	
Journal (See Schedule IV)		10,856.01	
General:			
Annual Session	$1,900.18		
President's Expenses	425.00		
Councilors' Expenses	538.88		
Legal Advisory Committee	1,000.00		
Other Committees	92.87		
National Education Campaign	449.64		
Delegates — New England Medical Societies	225.05		
Delegate — American Medical Association	612.92		
Clinical Sessions	167.00		
New England Council Dues	100.00		
Women's Auxiliary	150.00		
		5,661.54	
Total Expenses			34,043.90
Net Income for the Period			$934.64

SCHEDULE I

Capital Account
For the Year Ended May 31, 1953

Balance, June 1, 1952	$35,330.77
Additions to Capital:	
Net Income for the year ended May 31, 1953 (Exhibit B)	934.64
Total	$36,265.41
Deductions from Capital:	
None	— 0 —
Balance, May 31, 1953, Per Exhibit A	$36,265.41

SCHEDULE II

Trust Funds and Trust Fund Investments
May 31, 1953

TRUST FUND INVESTMENTS

Prince A. Morrow Trust:			
36 Shares American Agricultural Chemical Co. (Cost)		$ 348.00	
Canal National Bank Savings Book No. 3905:			
Balance, June 1, 1952	$1,902.47		
Add: Dividends Received	162.00		
Interest on Savings	29.57		
		2,094.04	
			$2,442.04
Thayer Library Trust:			
Canal National Bank Savings Book No. 3903:			
Balance, June 1, 1952		$1,248.80	
Add: Interest on Savings		22.54	
			1,271.34
Total Trust Fund Investments			$3,713.38

TRUST FUNDS

Prince A. Morrow Fund:		
Principal	$ 554.94	
Income	1,887.10	
		$2,442.04
Thayer Library Fund:		
Principal	$1,154.20	
Income	117.14	
		1,271.34
Total Trust Funds		$3,713.38

SCHEDULE III

Schedule of Cash Receipts and Disbursements
For the Year Ended May 31, 1953

Balance, Cash in Banks, June 1, 1952			$18,207.39
Cash Received From:			
State Dues		$21,965.50	
JOURNAL Subscription		1,387.61	
JOURNAL Advertising		8,444.24	
Exhibit Space Rentals		2,479.00	
Investments		712.15	
Miscellaneous (Refunds, Transfers, etc.)		325.56	
Employees for Social Security and Withholding		2,095.12	
Members for American Medical Association Dues		13,395.00	
Total Cash Received			50,804.18
Total			$69,011.57
Cash Disbursements:			
Executive Secretary's Office:			
Salaries	$9,193.75		
Travel Expense	1,336.82		
Office Expense	1,319.70		
		$11,850.27	
Secretary-Treasurer's Office:			
Salaries	$4,000.00		
Travel Expense	65.99		
Office Expense	1,537.62		
		5,603.61	
JOURNAL:			
Salaries	$ 500.00		
Printing and Plates	10,001.21		
Travel Expense	38.31		
Office Expense	400.66		
		10,940.18	
Social Security and Withholding Taxes		2,132.73	
General Expenses:			
Annual Session	$2,405.54		
Legal Advisory Committee	1,000.00		
President's Expenses	425.00		
Women's Auxiliary	150.00		
National Education Campaign	449.64		
Miscellaneous (Delegates, Councilors, Committees, Clinical Sessions, etc.)	1,830.78		
		6,260.96	
American Medical Association for Members' Dues		12,520.00	
Miscellaneous (Refunds, Transfers, etc.)		138.00	
Total Cash Disbursements			49,445.75
Balance, Cash in Banks, May 31, 1953			$19,565.82
Canal Bank — Checking Account		$16,873.69	
Canal Bank — Special Checking Account for American Medical Association Dues		1,167.02	
Maine Savings Bank Book No. 7751		1,525.11	
			$19,565.82

SCHEDULE IV

Schedule of Journal Income and Expense
For the Year Ended May 31, 1953

INCOME

Subscriptions and Sales of JOURNAL		$1,377.81
Advertising:		
State Journal Advertising Bureau	$7,557.71	
Local Advertising	1,006.06	
		8,563.77
Total Income from JOURNAL		$9,941.58

EXPENSE

Salaries:		
Editor		$ 500.00
Other Expenses:		
Printing and Plates	$9,933.48	
Stationery and Supplies	160.24	
Postage and Mailing	117.44	
Telephone	33.43	
Travel Expense	38.31	
Trucking	35.36	
Advertising	10.00	
Social Security Taxes	7.50	
Miscellaneous	20.25	
		10,356.01
Total Expenses		$10,856.01

NOTE: Above items of expense do not include any portion of salaries of Secretary-Treasurer, rent and lights, since no part of these expenses have been allocated specifically to the JOURNAL.

SCHEDULE V

Schedule of Income From Investments
For the Year Ended May 31, 1953

Income From:		
Interest:		
United States Government Bonds, Series "G"	$150.00	
Portland Terminal Company Bonds	150.00	
Province of New Brunswick Bonds	45.00	
Province of Nova Scotia Bonds	37.50	
Bangor & Aroostook Bonds	45.00	
Jacksonville Gas Corporation Bonds	40.00	
Prudence-Bond Corporation	11.90	
Maine Savings Bank	38.36	
		$517.76
Dividends:		
Central Maine Power Co.—Preferred	$42.00	
Consolidated Edison Co. of New York—Preferred	50.00	
Telfair Stockton Company, Inc.—Common	9.00	
Chase National Bank	55.00	
First National Bank of Boston	58.00	
		214.00
Total Income from Investments		$731.76

SCHEDULE VI

Schedule of Executive Secretary's Office Expenses
For the Year Ended May 31, 1953

Salaries:		
Executive Secretary	$7,000.00	
Stenographer	2,193.75	
		$ 9,193.75
Travel Expenses:		
County Societies	$148.26	
American Medical Association Meetings	570.08	
Other Council and Committee Meetings and Conferences	184.69	
Legislative Session	292.89	
		1,195.92
Office Expense:		
Rent and Lights	$466.65	
Stationery, Supplies and Postage	365.26	
Telephone	301.19	
Social Security Taxes	93.08	
Subscriptions, Books and Periodicals	139.50	
Miscellaneous	84.60	
		1,450.28
Total Expenses		$11,839.95

SCHEDULE VII

Schedule of Secretary-Treasurer's Office Expenses For the Year Ended May 31, 1953

Salaries:		
Secretary-Treasurer		$4,000.00
Travel Expense		47.51
Office Expense:		
Rent and Lights	$466.63	
Stationery and Supplies	524.31	
Postage	99.17	
Telephone	195.98	
Auditing	200.00	
Social Security Taxes	54.00	
Advertising	30.00	
Subscriptions, Books and Periodicals	18.00	
Miscellaneous	50.80	
		1,638.89
Total Expenses		$5,686.40

SCHEDULE VIII

Schedule of Securities May 31, 1953

	Face	Cost
Bonds (Cost):		
United States Government Bonds, Series "G", due July 1, 1956	$4,000.00	$ 4,000.00
United States Government Bonds, Series "G", due March 1, 1961	2,000.00	2,000.00
Portland Terminal Company, 5% First Mortgage Bonds, 1961	3,000.00	3,045.00
Province of New Brunswick, 4½% Sinking Fund Bonds, 1970	1,000.00	981.20
Province of Nova Scotia, 3¾% Bonds, 1971	1,000.00	995.00
Bangor & Aroostook, 4½% First Mortgage Bonds, 1976	1,000.00	860.00
Jacksonville Gas Corporation, 4% First Mortgage Bonds, 1969	1,000.00	1,025.00
Stocks:		
12 Shares Central Maine Power Co., 3½% Preferred, $100 par		948.00
10 Shares Consolidated Edison Co. of New York, Inc., $5 Cumulative Preferred, no par		1,090.00
25 Shares Chase National Bank		1,040.63
20 Shares The First National Bank of Boston		1,025.00
20 Shares Telfair Stockton & Company, Inc., Common, $4 par		60.00
2 Shares Prudence-Bond Corporation		0.00
Total Securities		$17,069.83

Additions to Maine Medical Association Roster for 1953

Androscoggin County:

Martel, Dominique A., 86 College Rd., Lewiston.

Cumberland County:

Kenneally, Elmer B., 704 Congress St., Portland.
Titherington, John B., 209 State St., Portland.

Hancock County:

Burgess, Lyman C., Blue Hill.

Kennebec County:

Staciva, Stanley J., Veterans' Adm., Togus.

Knox County:

Loewenstein, George, Dark Harbor.

York County:

Perrault, Oscar W., 30 South St., Biddeford.

A Brief Discussion of Mycosis Fungoides with a Case Report—Continued from page 206

mgm. of hydrocortone acetate was injected into each of two skin lesions and the patient was re-evaluated on 12-23-52. At that time there was general improvement in the dermatitis without any special regression of the lesions that had been injected with Compound F. The patient again left the hospital.

Re-evaluation on 1-6-53 showed the patient to be in good general condition, with no change in the previously noted skin lesions but a new lesion had appeared on the posterior aspect of the left thigh which was nodular in character. A second course of intravenous Nitrogen Mustard was begun on 1-8-53 consisting of 5 consecutive doses of 7 mgm. each. There was further regression of the lesions following this treatment but less marked than that following the first course of Nitrogen Mustard. On 2-3-53 he showed further improvement in his dermatitis and reported that on 1-26-53 he had had an episode of shaking chills without fever. Tumefacient lesions persisted in the left anticubital region, both axillary regions, on the abdomen above and to the right of the umbilicus, the right crural region, and on the left leg. Following a 10-day leave of absence he returned on 3-2-53 complaining of pruritus over left shoulder followed by the appearance of 3-4 spots which looked like burns and which, within the ensuing 24 hours, showed a watery exudate. Two days later similar lesions appeared on the anterior aspect of the lower thorax and the right arm became red with intermittent itching and several nodules were said to have appeared on the left thigh. General condition remained good. Examination revealed a blood pressure of 160/90. The skin showed sessile tumefactions, two in number on the right arm, two on the left arm, two on the abdomen, and one on the posterior aspect of the left thigh; plaques with excoriation were present on the arms, trunk, lower extremities, crural region, coccygeal region, and on the lateral aspect of the left lower extremity. Papular lesions were scattered over the anterior aspects of the right wrist and over both lower extremities. This represented a definite increase in the extent of the lesions. The patient was treated with general supportive measures including mild sedation, Calamine Ointment with 1% Vioform and, without other treatment, there was appreciable regression of the dermatitis.

In view of the transitory improvement that had followed Nitrogen Mustard therapy, it was felt that the patient should be given a trial of X-ray treatment and, accordingly, this has been instituted.

Summary

Mycosis Fungoides, a disease of unknown etiology and of protean clinical manifestations and having no satisfactory treatment, is discussed and a case of a patient who received Nitrogen Mustard therapy with temporary benefit is reported.

Bibliography

1. Ormsby, O. S., M. D., and Montgomery, Hamilton, M. D.: Disease of the Skin. 7th Edition. Lea and Febiger. Philadelphia.
2. Heller, J. J., M. D., and Heller, W. D., M. D.: Tumors of the Skin, Benign and Malignant. 2nd Edition. Lea and Febiger. 1951.
3. Percival, G. H., M. D., Drennan, A. Murray, M. D., Dodds, T. C.: Atlas of Histopathology of the Skin. F.I.M.L.T. Williams and Wilkins Co. 1947.
4. Macke, G. M., M. D., and Capallaro, Anthony C., M. D.: X-rays and Radium in the Treatment of Diseases of the Skin. 4th Edition. Lea and Febiger. 1946.
5. Beckman: The Year Book Publishers, 1952. Year Book of Drug Therapy, 1952. Page 380.
6. Beeson, et al.: The Year Book Publishers, 1952. Year Book of Medicine. Page 329.

A Tribute

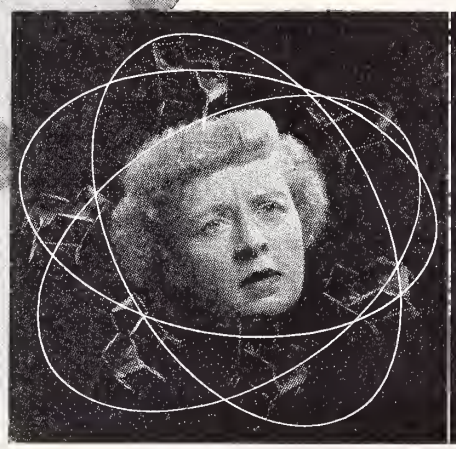
The World Fellowship of Medicine within a short period of time has lost, in the deaths of Marius N. Smith-Peterson and Frank Howard Lahey, two hard-working, gifted members from the foremost ranks.

Both men were our friends and neighbors. And while they both achieved national and international fame, they developed in the hearts and minds of our Maine Doctors a warm affection and cordial admiration.

They brought comfort and health to many of our patients and they furnished good advice and inspiration to our physicians. We are thankful for their good council and instruction. May light perpetual shine upon them.

1

1. *Dizziness . . . movement is within the head.*
2. *Objective vertigo . . . the environment is in motion.*
3. *Subjective vertigo . . . the patient himself moves in space.*



2

3

TYPES OF VERTIGO:

Their symptomatic relief with Dramamine®

The disagreeable sensations of dizziness which physicians are frequently required to explain to patients have been described by Simonton[1] as varying from a slight sensation of confusion to severe vertigo.

While dizziness or giddiness is classified as a sensation of unsteadiness with a feeling of movement within the head, in vertigo the environment seems to spin (objective vertigo) or the body to revolve in space (subjective vertigo). Labyrinthine disturbances are likely to cause a sensation of rotation. Among the more common causes of dizziness or vertigo, this author lists: Damage to the vestibular nuclei or tracts in the central nervous system, involvement of the vestibular end organs by disease of the ear, Ménière's disease, toxicity of drugs, ocular vertigo from sudden diplopia, visual field defects, looking down from heights and motion sickness due to hyperactive labyrinthine reaction from riding in vehicles.

Dramamine (brand of dimenhydrinate) has proved effective in treating many of these disturbances. The indications for which Dramamine is now Council accepted include: Motion sickness, the nausea and vomiting associated with pregnancy, certain drugs, electroshock therapy and narcotization; vestibular dysfunction associated with streptomycin therapy; the vertigo of Ménière's syndrome, hypertensive disease and that following fenestration procedures, labyrinthitis and radiation sickness.

1. Simonton, K. M.: The Symptom of Dizziness, Arizona Med. *6*:28 (Sept.) 1949.

SEARLE *Research in the Service of Medicine*

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Secretary, Norman O. Gauvreau, M. D., Lewiston

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COUNTY SOCIETY NOTES

Washington

Thirty members and guests of the Washington County and St. Croix Medical Societies met Wednesday, June 10th, at DeMonts Restaurant in Calais to honor Dr. E. D. Thomas of St. Stephen, N. B. Dr. Thomas has recently been elected to senior membership in the New Brunswick and Canadian Medical Associations. Speakers at this meeting were Dr. H. S. Everett of St. Stephen, N. B., who spoke on his close association with Dr. Thomas over the years. Dr. Everett said that they were very fortunate to have set up their practice in the St. Croix Valley which he considered a most ideal place to live. Dr. Everett presented a gift of a pen and pencil set to Dr. Thomas. Dr. Frederick Whitehead, secretary of the New Brunswick Medical Society, spoke on the honor of being elected to senior membership. Dr. Bates, president of the Washington County Medical Society, spoke on the friendship that existed across the border between the men in the medical profession. The official part of the meeting closed with toasts to the Queen and to the President. Music for the social hour that followed was furnished by Dr. Fred Sears at the piano, Dr. Hazen Mitchell with his saxophone, and Dr. Raleigh Smith with his violin.

NEWS AND NOTES

Program

Annual Meeting Maine Medico-Legal Society
Wednesday, August 19, 1953, Augusta House,
Augusta, Maine

10.00 A. M.

Business Meeting:
Reports of Secretary, Treasurer, and Executive Committee
Two proposed changes in Constitution and By-Laws, to be presented by Wilson H. McWethy, M. D., Medical Examiner
New Business
Election of Officers

12.00 Noon

Business Men's Lunch

2.00 P. M.

Remarks by President Joseph E. Porter, M. D., Colonel Francis J. McCabe, Chief of State of Maine Police, and Alexander A. LaFleur, Attorney General
We hope that Governor Burton M. Cross and Norman H. Nickerson, M. D., President of the Maine Medical Association, will be present
Address, with pictures, by Richard Ford, M. D., Head of the Legal Department, Harvard Medical School

George L. Pratt, M. D., *Secretary,*
Maine Medico-Legal Society.

Maine Hospitals Willing To Accept Poliomyelitis Cases

The following hospitals have indicated willingness to accept polio cases:

Augusta General Hospital, Augusta, Maine.
Aroostook General Hospital, Houlton (1 case at a time).
Central Maine General Hospital, Lewiston.
Eastern Maine General Hospital, Bangor.
Franklin County Memorial Hospital, Farmington (Diagnosis).
Gardiner General Hospital, Gardiner (Diagnosis).
Knox County General Hospital, Rockland (Diagnosis).
Madigan Memorial Hospital, Houlton.
Maine General Hospital, Portland.

Mercy Hospital, Portland.
Miles Memorial Hospital, Damariscotta (Diagnosis).
Mount Desert Island Hospital, Bar Harbor.
Osteopathic Hospital of Maine, Portland.
Peoples Benevolent Hospital, Fort Kent.
Presque Isle General Hospital, Presque Isle (Diagnosis).
Saco Osteopathic Hospital, Saco (Diagnosis).
St. Andrew's Hospital, Boothbay Harbor (Diagnosis only).
St. Mary's Hospital, Lewiston (Acute cases only).
Sisters' Hospital, Waterville.
Thayer Hospital, Waterville.
Webber Hospital, Biddeford.
York Street Hospital, Mars Hill (Emergency).

List of Respirators and Hot Pack Machines Available in Hospitals in Maine:

Hospitals	*Respirators*	*Hot Pack Machines*
Aroostook General Hospital, Houlton	1	0
Augusta General Hospital, Augusta	1	0
Bath Memorial Hospital, Bath	0	1
Central Maine General Hospital, Lewiston	2	1
Eastern Maine General Hospital, Bangor	3	1
Franklin County Memorial Hospital, Farmington	1	0
Knox County General Hospital, Rockland	1 and 1 infant	0
Madigan Memorial Hospital, Houlton	1	1
Maine General Hospital, Portland	2	4
Mercy Hospital, Portland	0	4
Mt. Desert Island Hospital, Bar Harbor	1	0
Osteopathic Hospital of Portland	1	1
St. Andrew's Hospital, Boothbay Harbor	1	1
Sisters' Hospital, Waterville	1	0
Thayer Hospital, Waterville	1	0
Webber Hospital, Biddeford	3	1

Ella Langer, M. D., *Director, Services for Crippled Children, State of Maine Department of Health and Welfare.*

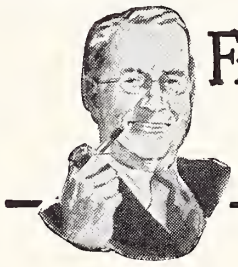
Venereal Disease Clinics

The Department of Health and Welfare, Bureau of Health, maintains facilities for the diagnosis and treatment of venereal diseases in the following locations:

Augusta, Bangor, Bath, Belfast, Biddeford, Lewiston, Portland, Rockland, Rumford, Sanford, Waterville, Wilton and Winthrop.

Any physician wishing to refer an indigent person for diagnosis or treatment may obtain the name of the nearest clinic physician by contacting the Department of Health and Welfare, Bureau of Health, State House, Augusta, Maine. If no clinic facilities are available, physicians will be authorized to treat indigent patients in their offices. Authorization should be requested before treatment is started.

Advertisement



From where I sit *by* Joe Marsh

PTA Gets Stung by a "Bee"

The local PTA is feeling sheepish today. Seems they complained the youngsters weren't learning enough. Said they couldn't even spell. So the kids challenged them to a spelling bee.

"I was captain of the PTA'ers," "Doc" Brown told me. "Both teams made the first round just fine. But on the second round Speedy Taylor went down on 'efficiency.' Then his boy Chip, who happened to be next on the school team, rattled it right off. From then on it was murder!"

So now "Doc" says that the whole PTA is thinking of signing up for night school!

From where I sit, it pays to look and think before you leap to conclusions. Take those folks who would deny me a glass of beer without a moment's thought. Or those who would tell me how to practice my profession. They wouldn't want me to interfere with their way of life. It's a good idea to think twice before you "spell out" rules for others.

Joe Marsh

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WOMAN'S AUXILIARY TO THE MAINE MEDICAL ASSOCIATION

Woman's Auxiliary Pledges Support to Polio Program

The Woman's Auxiliary to the Maine Medical Association was represented at the first "State Women's Polio Preparedness Meeting" in Augusta, Wednesday, June 3, by Mrs. James Shippee of Winthrop, Health Council Chairman of the Kennebec County Medical Society Auxiliary. This important conference, which was planned to bring women leaders the latest word on polio research and the gamma globulin situation, at a time when they most want clarification of the polio control picture, was arranged and conducted by Mrs. Harold B. Dumont of Skowhegan, State Advisor of Women's Activities for the National Foundation for Infantile Paralysis. More than forty organizations were represented by State Presidents or delegates. Community leaders of the Mothers' March on polio and committee members of National Foundation Chapters from Maine's sixteen counties as well as Department Heads from the State Bureau of Health and Welfare were in attendance at this day-long session. The women were joined at the luncheon by several special guests, including Maine's first lady, Mrs. Burton M. Cross and Brigadier General and Mrs. George M. Carter; General Carter having an interest in this program since he had served as State Chairman for the March of Dimes for a period of six years. Dr. Dean Fisher, Director of the Bureau of Health, State Health Department, Augusta, welcomed the group at the morning session and commended them for their interest in attending such a meeting. He likened the conference to a "Refresher Course" which would bring greater understanding of the latest developments in treatment of infantile paralysis patients, through State and local leadership. He stressed the value of the Foundation's three point program of patient-care, research and the year-round educational work which has contributed greatly to the health and well-being of the American Public since the Foundation's inception. Dr. Fisher explained the immediate plans for the distribution of Gamma Globulin in Maine. He stated that, "because of limited processing facilities and in spite of the fact that the Foundation has purchased all available commercial gamma globulin, the demand will far exceed the supply. There are 46,000,000 persons in the age group most susceptible to polio and enough gamma globulin for approximately 1,000,000 'shots.' The Office of Defense Mobilization has been assigned the tremendous task of allocation of this precious commodity . . . Gamma Globulin, or G.G. as it is so often called . . . will be available only on the basis of a distribution plan developed by the State Health Department and its Medical Consultants, through District Officers and the full time Medical City Health Officers." He continued, "There will be no charge for G.G. as the American People have already contributed their blood which is to be processed, their volunteer efforts and their money toward the support of this important phase of polio prevention. However, the family physician may charge for his services as he does for any professional medical care." He said, "Remember, Gamma Globulin only builds up a temporary immunity for a period of one to five weeks. It is not a permanent vaccine."

Dr. Thomas Hines, Assistant Professor of Medicine, Yale University School of Medicine and Director of Physical Medicine and Rehabilitation at the Grace New Haven Community Hospital, New Haven, Connecticut, was presented to the group at the luncheon by Mrs. Dumont. He told of the discovery of the three distinct strains of the polio virus and the ability to grow quantities of the live virus on nonnervous tissue in test tubes in the laboratories. "Great strides have been made in the Research Field since this discovery." Studies are continuing at a rapid pace. The Foundation has expended more than eighteen million dollars on the research program with three and one-half million allocated in 1952. He said too, that, "Although we will have no workable vaccine this year, hopes for the future are brighter than at any previous time. Gamma Globulin will be useful in epidemic areas as a temporary agent."

Miss Ruth Williams, National Coordinator of Women's Activities from New York City, was a guest speaker at both the morning and afternoon sessions. Miss Williams emphasized the role women can play in mental rehabilitation of the patient. She said, "Patient-care is not only confined to putting the patient to bed." Further personnel and humanitarian need should be fulfilled as well as medical and hospital care. Visiting patients who are a long distance from home and families . . . in convalescent homes and hospitals . . . writing letters . . . encouraging patients, building morale in many friendly ways can be effectively done by trained volunteers to relieve busy professional personnel to attend to the more acutely ill. She told of the fine work being done by Polio Emergency Volunteers throughout the Nation. She said she was happy to learn from Mrs. Dumont that Maine had also trained Polio Emergency Volunteers in several hospitals where acute polio cases are accepted. Miss Williams explained the chapter program of the Foundation and said that more than 3100 Foundation Chapters throughout the entire United States were continuing financial care to polio patients in hospitals and treatment centers. Braces, crutches and other needed appliances are purchased. Reconstructive surgery, follow-up care at clinics and even transportation is taken care of for all patients who cannot afford to pay in full or in part. She said, "This is not Charity. The March of Dimes is a trust fund, set up by the people to give adequate medical care to victims of this disease."

The Education program of the Foundation was thoroughly discussed. The need for community understanding to avoid unreasonable demands for Gamma Globulin and to dispel needless fears of anxious parents was brought to the attention of the Conference group. An exchange of experiences and practical working ideas revealed the opportunity for wider local participation and the Foundation's Education and service projects.

The group, in work-shop session, planned for the distribution of pertinent literature furnished by the Foundation's Public Education Service, to schools, libraries, boys' and girls' summer camps, fairs, and door to door coverage.

Support of the program was pledged by State Presidents of Women's Clubs and Organizations in attendance.

Mrs. John Lyons, Portland, President, Maine Congress of Parents and Teachers, Inc., Mrs. George Tyler, Oakland, State Health and Welfare Chairman for the Maine Federation of Women's Clubs and Mrs. Harry A. Littlefield, Bangor, Immediate Past President, Maine Diocesan Council of Catholic Women, participated on a panel during the afternoon session and told of ways in which the members of their state-wide organizations could help disseminate the information which they had gleaned from this polio conference.

A better understanding of the Foundation's Program resulted from this meeting. It emphasized to volunteers and State organization leaders the need for participation by an understanding public, so that within the not too distant future, scientific and lay workers together may say, "We did it, polio is relegated to the past."

TUBERCULOSIS ABSTRACTS*

Issued by the National Tuberculosis Association

Community-Wide Chest X-ray Survey

Public Health Service, Publication No. 222, Federal Security Agency—Foreword by James E. Perkins, M. D.

Tuberculosis control rests primarily on the prevention of the spread of infection. With the elimination of milk-borne infections, this boils down to finding every human source of infection—that is, every patient with active disease—as soon as possible, so that supervision and care, the means of preventing further infection and of rendering the patient noninfectious, can be provided at the earliest possible moment. Until we have an effective antituberculosis vaccine comparable to smallpox vaccine or diphtheria toxoid, this will continue to be the principal basis for the tuberculosis control program.

This in no way belittles the importance of social and economic factors in the reduction of tuberculosis morbidity and mortality. Although the tuberculosis worker realizes that such factors have been of major importance in the reductions effected to date—and, perhaps, even of greater importance than the specific attack upon tuberculosis itself—he faces realistically the fact that improvements in standards of living are dependent upon many diverse factors, which he personally can affect only to a minor degree. Although he supports programs which may improve standards of living, he believes that short cuts can be taken to the goal of tuberculosis eradication by specific anti-infection measures. He realizes that no case of tuberculosis ever occurs in the absence of the tubercle bacillus. He is aware of examples of other communicable diseases whose prevalence was precipitously reduced through the application of specific control measures, without any concurrent, significant change in social and economic conditions. Multiple causation of tuberculosis is real — but the other causes do not count if the tubercle bacillus is eliminated. The practical approach to the control of tuberculosis, then, is to find infectious cases as soon as possible after they have become infectious.

The value of finding cases is directly related to personnel and facilities available for adequate supervision and proper hospital treatment. Ideally, therefore, before conducting a case-finding program, one should estimate the number of cases which exist in the community and arrange for adequate facilities for their care and supervision. However, human nature being what it is, and with the demands for public funds often exceeding available amounts, it is frequently necessary to reverse this process and find the cases first. When this is done, a community's authorities may be approached with a specific, concrete problem needing immediate solution, rather than an estimate of a problem for which facilities should be provided. We can get higher percentage yields of active cases of tuberculosis by seeking these cases in certain, special segments of the population, such as the household contacts of known cases and patients admitted to general hospitals. Such segmental case-finding programs are essential but the difficulty is that if case-finding activities were confined solely to such groups, we should still miss the majority of active cases in a community. This is especially true in the large cities, where infections are likely to occur from sources which cannot be traced by the usual epidemiological investigations.

About five years ago, it became clear that the community-wide approach to tuberculosis case-finding was the indicated method. The difficulties and expense of community-wide surveys were not underestimated, but these were not regarded as insurmountable obstacles. Moreover, the promise which the community-wide chest X-ray survey held for effective tuberculosis control would more than justify the efforts needed to launch the program.

It was obvious that community-wide chest X-ray surveys could be conducted most effectively and efficiently in the large cities, the very places which were most in need of such case-finding programs, and where local case-finding facilities were often not adequate for completing such programs in a reasonable period of time. Since the large cities have the highest tuberculosis death rates and well organized medical and public health facilities, including hospitals, clinics, and official and voluntary health organizations, they were the most logical places to initiate these mass screening programs.

The time element is very important in community-wide chest X-ray surveys. If the survey is conducted at such a slow tempo that only a fraction of infectious cases are discovered in a given year, little or no dent is made in the amount of infection in the community. Finding 10 per cent of the cases per year over a nine-year period, for example, is not nearly as effective as finding 90 per cent of the cases in one year.

It would be ideal to have every person receive an annual chest X-ray through local facilities as part of a general physical examination, preferably with the physical examination performed by the family physician. However, this is only an ideal at the present time, and the community-wide chest X-ray survey offers a practical way of bridging the gap until we can reach this goal. An undertaking like the community-wide chest X-ray survey is bound to result in temporary adjustments and changes in normal community health services, and these, in turn, can make for problems and difficulties. Experience, however, has shown how to minimize these problems and difficulties and also that such temporary dislocations of a community's health services are not without benefit. First, before a chest X-ray survey is begun, the official and voluntary health agencies of a community must go through some new thinking in the evaluation of their tuberculosis control program. Second, other community groups and civic leaders are brought actively into the program of tuberculosis control, often for the first time. Third, the survey helps to make almost every citizen of a community aware of the tuberculosis problem, and to realize that he can help solve it. And finally, the mass case-finding program stimulates a community's civic leadership toward providing facilities for the diagnosis and treatment of tuberculosis more rapidly than they otherwise would.

There are still many questions to be answered with regard to community-wide chest X-ray surveys. Some of these are: (1) How often should surveys be repeated? (2) At what low point of tuberculosis prevalence in a community will the yield of new cases be so low as to make the expense of community-wide chest X-ray surveys exorbitant? (3) To what extent can and should community-wide chest X-ray surveys be combined with screening programs for other conditions? The existence of these questions does not justify altering the program for the present. Surveys conducted thus far have indicated that they are practical procedures, that they yield worthwhile results, and that they must be continued for some time to come.

Since tuberculosis is a communicable and therefore unnecessary disease, the community-wide chest X-ray survey deserves the full support of the medical profession, the official health agency, and the voluntary health association. The action of the Public Health Service in making personnel and facilities available to large cities through their state health departments for these surveys was a bold and courageous step which is paying large dividends for tuberculosis control.

(The printing of Tuberculosis Abstracts is made possible by the coöperation of your local tuberculosis and health association.)

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PRESIDENT'S ADDRESS*

Eugene H. Drake, M. D., Portland, Maine**

While there were local medical clubs in Maine as early as 1791, the first state-wide organization of Maine physicians, the Medical Society of Maine, was inaugurated with Dr. Samuel Emerson of Kennebunk as President in 1820, the year of Maine's separation from the Commonwealth of Massachusetts. Biographies of its members have been written by the late Dr. James A. Spalding and his history was published by the Lewiston Journal Press in 1928. The Medical Society of Maine met at intervals and in 1834 published the first number of a journal. But roads were poor and travel was hard. They finally ceased to meet in 1845.

The Maine Medical Association whose 100th birthday we celebrate was founded April 28, 1853, at the Tontine Hotel in Brunswick with Dr. Isaac Lincoln of that town as President. Transportation by then was considerably improved and it was no longer a day's trip from Brunswick to Augusta. In fact in that very year James Russell Lowell has recorded a journey he made to Moosehead Lake. On August 11th he traveled from Boston to Waterville via the Eastern Railway and put up for the night at the Elmwood House. The north bound coach left the hotel at 5 o'clock the next morning and the pleasant trip along the bank of the Sebasticook River was broken only by a pause to cool a hot axle and the discovery that one of the mail bags was missing; the driver guessed "somebody'd pick it up; 't any rate, likely there's nothing in it." At Newport the journey was continued in a vehicle known as a mudwagon which sounds like a long step away from the Hub of the Universe, the grand Eastern Railway, and the Elmwood House. Mr. Lowell describes how in early evening the dactylic sound of the horses' hooves on a down slope of the road tempted him to recite the opening stanzas of Evangeline, when suddenly the team hit a spot of clay reinforced by logs laid crosswise of the road. Finally at 11 p. m. after 72 miles and a total of 18 hours on the road, they arrived at Greenville which, the Poet says, "looked as if it had dripped down from the hills and settled in the hollow at the foot of the lake."

So, aided by the improved roads and mudwagons, there were no lapses in the meetings of the Maine Medical Association. We have a complete record of their annual transactions which were published for some years in book form. We possess and cherish the original constitution and the signatures of each successive group of new members. They bequeathed to us an organization which with modifications continues to serve us well.

A society which has existed for a hundred years has attained a degree of permanence. Add the fact that during those years the organization's aim had been the public welfare and one might anticipate that the society would be held in respect and honor. During its first 50 years the Maine Medical Association played a leading role in the life of the state. Its members made an annual survey of the prevailing diseases in the state. They were responsible for the estab-

* Presented at the Centennial Session of the Maine Medical Association, June, 1953.

** President, Maine Medical Association, 1952-1953.

lishment of the State Board of Health and they were actively concerned in the foundation of the first general hospital in Maine and the first hospital for the care of the insane. They were interested in improving the instruction given at the Medical School of Maine. Members of the Association attempted to guide the state legislature in matters of public health.

By the beginning of the twentieth century, the majority of these aims had been attained and there came a time of rest from endeavor, a period when the voice of the Association was heard in public mainly in opposition to some proposed action which seemed unwise. This defensive plan of action is often necessary but it obviously lacks the appeal of a constructive program. Its public reception is apt to be like that of Mr. Elmer Davis, radio commentator, who was discussing certain objections raised by the American Medical Association last December. Said Mr. Davis:—

> "The A. M. A. objects to the recommendations of the Magnusson Committee but they have nothing to offer in its place. The A. M. A. never has anything constructive to offer."

This particular criticism was unjust, for the A. M. A. did have a constructive program of which Mr. Davis as a news analyst should have been aware. But his attitude is like that of some of our citizens toward the Maine Medical Association in the first 30 years of this century. During this period we lost our medical school which had existed for 101 years. The state legislature enacted into law several other bills to which our Association raised objection. These acts tended to lower the standard of medical practice in Maine and to make our state less attractive to young doctors looking for a location to start. The Maine Medical Association attempted to oppose this tendency by encouraging better county society meetings and clinics, by the formation of a committee on Post Graduate Medical Education, traveling panel discussions, and a fall clinical session.

And then came the 1930's and 40's with their amazing improvements in medicine and surgery to shower us with an entirely new set of medical problems demanding immediate attention. The forceful manner in which you, members of the Association, have faced these problems and undertaken to solve them leads one to hope that in the last decade of our hundred years we have been entering a second adolescence, an age reminiscent of the early days of the Association. There is surely as much need for careful planning and vigorous action today as there was a hundred years ago.

What has been accomplished since those days early in 1946 when your President, Dr. Adam Leighton, persuaded you to increase your dues in order to employ an executive secretary and appointed a committee to study and report on voluntary health insurance plans? You have an enlarged and coöperating central office force, a modernized Constitution and By-laws, a better journal, a successful insurance plan, a committee on Ethics and Discipline, and a balanced budget.

We must not forget our 4-year-old sister organization, the Woman's Auxiliary to the Maine Medical Association, a society which is sure to be a powerful future ally.

What are the questions which face us? The most urgent are: 1) public relations, 2) the cost of medical care, and 3) rural health.

We physicians are servants of the public, privileged to earn our livings at their wish. But public opinion is something more than bread and butter; it is a vast unguided force waiting for some one to direct it. This concept reminds me of a picture in memory. The picture is Waikiki Beach. The beach is still strewn with barbed wire entanglements. The strong afternoon trade wind is blowing and the long rollers chase each other in, to break and hiss up the sand. The sun is so bright you shade your eyes with one hand. Away out in the distance where the sky and sea meet, there is a moving object and it is moving fast, on a slight tangent. It sinks below the horizon and as it grows nearer you can see that it is a man standing erect, riding a surfboard. He rides in through the first breakers, jumps off in the surf and kicks his board up on the beach. Skill and brains, turning two unopposable forces, wind and sea, to his own use. An individual or a small group of individuals like the Maine Medical Association or the AMA cannot hope to successfully oppose public opinion. So you climb aboard what you cannot resist and guide it. And I like to feel that we shall direct it not to our own advantage alone, but to the public good. Many men are attempting to control public opinion and we must make use of all the agents available:—the press, the voice, the radio and television, for example. We have made small beginnings along these lines. Already we have emergency answering services for calls in all the larger cities in Maine. We need public relations committees in the county societies. Our own patients and their families form a part of public opinion and complete understanding with them is necessary.

The cost of medical care disturbs us. The public does not yet fully understand that it is the cost of hospital care and laboratory examinations rather than doctor's fees which have increased so much. These mounting costs make us cut short the hospital stay of many patients and keep us from ordering laboratory work which is not essential. We cannot control the increase in wages or the prices of materials which hospitals must pay but as staff members we can try to see that drugs and supplies are not wasted and that hospitals are economically administered. We must make a concerted effort to see that payments to hospitals under State Aid for medically

indigent patients is sufficient. In particular we must resist too great increase in hospital rates for paying patients, made to help pay the way of the indigent. This is clearly placing the cost of sickness where it does not belong,—upon shoulders already bowed by the burden of their own illness. The sick cannot be asked to pay the way of the sick; it is for those of us who are well to bear the load.

The increased utilization of hospital and medical insurance will help to solve this problem. Insurance is the solution for State Aid cases in community hospitals where no ward service exists.

The cost of medical care and other mutual problems might be profitably discussed by a joint committee composed of representatives of Maine Hospital Association, State Nurses Association, Pharmaceutical Association, Dental Association, and Maine Medical Association.

There are various national and state organizations which foster patient care and research in a disease or group of diseases. National Polio Foundation, Tuberculosis, Heart, Cancer, Arthritis and Diabetic Associations. We must continue to give help and cooperation whenever possible to these groups.

Our state is large. It is farther from Kittery to Fort Kent than it is from Portland to Philadelphia. As you drive over the rural sections of the state, there are frequent towns without a physician. With a greater number of medical graduates each year and a hope for eventual world peace, we may expect more physicians will wish to locate in rural communities. The erection of several new community hospitals under the Hill Burton Act has made practice in those areas more attractive. The Maine Medical Association and the State Board of Registration are receiving more inquiries regarding opportunities to practice, and our central office now has this information to furnish, thanks to a state-wide committee of our Association. It is still difficult for Maine boys to secure admission to medical schools and it is just as difficult to induce young physicians who are city-bred to undertake rural practice. A medical school in Maine might not solve all our rural health problems but it would be a valuable means of providing physicians for rural communities. The Maine Medical Association has voted in favor of such a school and some day we shall have it.

The cost of a medical education has increased along with the cost of other things. We are in sympathy with the AMA Medical Educational Foundation, and urge that all our members who can, contribute to the fund. Do the best suited young men and women in Maine always undertake the study of medicine or are some of them prevented from starting because of the cost of years premedical and medical study? A fund to provide scholarships for worthy candidates would help. Such a fund might be used in the form of loans and from a small beginning might grow to considerable proportions.

The sparse population and long distances between communities of size in some areas of the state make it difficult to put into effect the Public Health Service plan for local health officers. A careful apportionment of the state must be made which will provide each local health officer with sufficient population without assigning him more territory than he is able to cover.

The rule requiring monthly staff meetings at community hospitals in counties of large area and few physicians is acting to reduce the number of meetings of county medical societies. It may be that the staff meetings provide adequate clinical opportunities but county societies need to meet at regular intervals in order to transact business at least. It may be possible if necessary to combine hospital staff and county society meetings in some localities.

My year as your president has been a busy and interesting one and I thank you for the great honor you have given me. I also wish to thank Mrs. Kennard and Mr. Payson for their frequently given aid. This has been a legislative year and our Legislative Committee has done outstanding work. We have favored a number of bills which include improvements at the Augusta State Hospital, the bill originated by Dr. Swett's committee to train nurses' aides, and increased appropriation for hospital payments in State Aid cases. There were two members of our Association in the recent legislature: Dr. Ervin A. Center, Representative from Cumberland County and Dr. John Hanson, Senator from Washington County. These physicians have represented the Maine Medical Association as well as their communities and have done so in a manner to bring credit to themselves and to the medical profession. On behalf of the Association I wish to thank them.

The strength of an organization such as ours lies in great measure in its committees. The council, standing and special committees, I wish to thank and in particular the Centennial and Scientific Committees and the chairman, Dr. C. Lawrence Holt, for the arrangement of this outstanding annual meeting.

FALL CLINICAL SESSION, BANGOR, MAINE

OCTOBER 25 and 26, 1953

THE SURGICAL TREATMENT OF MITRAL STENOSIS*

Harry A. Bliss, M. D., and Emerson H. Drake, M. D.

In recent years the development of effective and relatively safe surgical treatment of mitral stenosis has dramatically changed the outlook for patients suffering from symptoms of this disorder. The relentless trend toward cardiac invalidism and death can now be relieved in many of these individuals. Therefore, the alert physician, by evaluating each patient with mitral stenosis for possible surgery, can often help reverse this gloomy progression.

In considering the challenge offered by the diseased mitral valve, it is appropriate first to consider the normal valve and the nature of its transformation by rheumatic fever, along with the hemodynamic changes caused by this transformation. Insight into this pathologic anatomy and physiology aids in the establishment of operative criteria and serves as an indication both of the risk involved and of the benefit likely to be obtained from surgery.

Anatomical Considerations

The mitral valve consists of two leaflets anchored on the mitral ring and attached to the left ventricular myocardium by chordae tendineae. The leaflets differ considerably in their size and function. The mural leaflet is small, posterior in location, and flattens against the lateral wall of the ventricle during ventricular diastole. The much larger aortic leaflet, lying on the lateral aspect of the left ventricular outflow tract, is generally believed to act as a baffle deflecting the ventricular systolic discharge away from the auricle into the aorta. In altering the mitral valve surgically, it is therefore of considerable importance to preserve intact the aortic leaflet and the posteromedial commissure in order to prevent postoperative mitral insufficiency and consequent left ventricular failure. It was observed by Walsh, Bland and Jones,[1] that most patients with "pure" mitral stenosis (i.e. those without auscultatory evidence of other valvular lesions) have had a relatively mild form of rheumatic fever and that in many no clearcut episode of rheumatic fever preceded the appearance of heart disease. The earliest appearance of "pure" mitral stenosis in this series came three years after the initial rheumatic infection and in only 11% did the murmur appear less than five years later. In a later report[2] these authors noted that some patients developing the characteristic murmur of mitral stenosis had had pre-existing evidence of valve injury, whereas in others the murmur made its appearance insidiously 10 or even 15 years following an attack of rheumatic fever which had left no sign of valvular disease. Although the exact nature of this phenomenon is poorly understood, it is obvious that valve narrowing is a gradual and progressive process.

As a result of this lengthy process with its inflammatory origin, drastic changes take place in the mitral valve. Variable degrees of thickening and shortening of the valve leaflets, ring, and chordae tendineae occur, occasionally with fusion of the latter structures. Calcium may be deposited, often along the thickened valve edges. The common denominator is of course narrowing of the valve orifice, which lies at the apex of the truncated cone formed by the mitral ring and valve leaflets. In some instances the involved structures are so arranged anatomically that complete valve closure during ventricular systole is impossible and mitral regurgitation results. Harken and his co-workers[3] believe the occurrence of regurgitation depends upon whether the stenotic orifice is oriented laterally or medially into the ventricular cavity. Other workers, however, feel that the precise nature of the factors involved in the production of mitral insufficiency has not yet been fully elucidated.

It is well known that the presence of the classical auscultatory findings of mitral stenosis does not necessarily indicate that a given individual suffers from related symptoms, nor is it impossible that he will live out his life span without difficulty. If the valve orifice is sufficiently small, however, symptoms caused by increased pressure in the pulmonary circuit, reduced cardiac output, and failure of the right ventricle inevitably occur. Since insight into these physiological abnormalities is fundamental to an understanding of the symptomatology of mitral stenosis, they will be briefly discussed.

Physiological Features

Most of our knowledge of the altered hemodynamics of mitral stenosis has been gained by investigators in many laboratories using the technique of venous catheterization of the right heart and pulmonary artery.[4, 5, 6] The catheter is introduced into the right heart by way of a systemic vein, allowing the collection of blood samples and the recording of pressure pulse waves. This procedure permits measurement of cardiac output and intracardiac and pulmonary arterial pressures at rest and after exercise. An index of left auricular pressure may be gained by determining the pulmonary "capillary" pressure by wedging the catheter tip into a small pulmonary arterial branch.[7] Combining these data allows an estimation of the mitral orifice size through use of the hydraulic formulae devised by Gorlin and Gorlin.[8]

* From the Cardiac Surgical Diagnostic Clinic of the Maine General Hospital.

The impedance to blood flow imposed by the stenotic mitral valve requires that pressure in the left auricle rise in order to preserve left ventricular filling. Pulmonary venous and arterial pressures also rise to a level determined by the elasticity and distention of the pulmonary vasculature and the competence of the right and left ventricles, as well as by the degree of narrowing of the mitral valve. Cardiac output is maintained at a level dependent upon myocardial function and numerous other factors.

As might be expected, the degree of circulatory abnormality observed in physiological studies roughly parallels the severity of symptoms. In patients having circulatory symptoms only at exercise, Ferrer et al.[4] found resting pulmonary hypertension to be a consistent finding with further pressure increase ensuing on exercise. Cardiac output in these individuals was variable at rest and in its response to exercise. Exercise imposes an additional burden on the circulation in mitral stenosis in several ways. By increasing heart rate it decreases the time per minute available for left ventricular inflow and necessitates a further rise in left auricular pressure to maintain left ventricular filling. The increased venous return to the heart during exercise augments flow through the pulmonary circuit, thus contributing to the rise in pulmonary arterial pressure. Anxiety has a similar effect in raising pressure in the pulmonary circuit through increased heart rate and rise in cardiac output. These changes offer an explanation for the attacks of pulmonary edema which may occur in the patient with mitral stenosis during a nightmare or other emotional outburst.

In all patients dyspneic at rest as well as at exercise, Ferrer and her co-worker,[4] found severe pulmonary hypertension. This corresponds to the experience of other investigators. Borden et al.[9] were able to demonstrate a rough proportionality between resting pulmonary arterial pressure and the severity of the patient's incapacity for exercise. In many patients with chronic obstructive lesions at the mitral valve, a considerable degree of sclerosis of the pulmonary artery and its branches is demonstrable, and there is no doubt that this may contribute significantly to pulmonary hypertension. It has been proposed[10] that the gradient between pulmonary arterial mean pressure and the pulmonary "capillary" mean pressure is proportional to the resistance offered to blood flow by the pulmonary arterial tree up to and including the pre-capillaries. This concept may afford a means of separating the total pulmonary resistance into a component operating at the pulmonary precapillary level and another at the mitral valve. If pressure in the pulmonary capillaries exceeds the sum of plasma osmotic pressure plus local tissue pressure, transudation of fluid into the alveolar spaces and clinical pulmonary edema ensue. Thus it has been observed by Gorlin et al.[11] in a small group of patients with pulmonary edema at rest that all had a pulmonary "capillary" pressure over 30 mm. Hg.

The adequacy of the myocardium has a close relationship with pressure levels in determining clinical symptoms. Ferrer et al.[4] brought forth evidence that left ventricular function may be impaired in patients with mitral stenosis. In their series some patients with symptoms only at exercise revealed signs of right ventricular failure during the added load of exercise. It seems likely that previous rheumatic myocarditis may leave both ventricles relatively inadequate for their work load. An additional load is imposed on the right ventricle by the tremendous increase in work against pressure required in patients with pulmonary hypertension. Gorlin and his coworkers[5] found an inverse relationship between cardiac output and pulmonary resistance in most of their patients. Just as left ventricular failure may contribute to elevated pressure in the pulmonary circuit, similarly right ventricular failure of significant degree is usually associated with signs and symptoms of systemic venous engorgement such as hepatomegaly, engorged jugular veins, and peripheral edema.

It is, therefore, a complex combination of several pathological variables which produces the abnormal hemodynamic pattern and ensuing symptoms in the individual patient. Considering the chronicity of these changes and the widespread tissue alterations involved in their production, it is perhaps surprising that surgical relief of mitral valve narrowing frequently improves symptoms so dramatically. It is certainly not unexpected, however, that patients may experience progressive improvement over a long period following a mitral valvulotomy. The results of post-operative cardiac catheterizations performed by Glover's group[11] indicate that several months or longer may be required for pressure levels in the pulmonary circuit to return toward normal. The final answers to this problem are not yet available.

The problem of the recognition of mitral insufficiency deserves mention. It is obviously undesirable to subject a patient to mitral valvulotomy if much of his circulatory difficulty is dependent upon mitral insufficiency rather than stenosis. Yet the difficulties of clinical recognition of significant degrees of regurgitation through the mitral valve are great. Biörck and his co-workers[12] studied the relative diagnostic value of auscultation, phonocardiograms, electrocardiograms, cardiac roentgenography, angiocardiography, electrokymography and cardiac catheterization in this regard and found that auscultation of cardiac murmurs was of most assistance. Others[13] believe that no single method approaches reliability but that a combination of techniques may afford more diagnostic accuracy.

Classification and Selection of Patients

Rheumatic heart disease produces a variety of cardiac pathology which may cause complications elsewhere in the body. Mitral stenosis itself results in disability differing in severity from patient to patient and from time to time. In a situation of this complexity, it is manifestly impossible to construct rigid criteria for operability. Experience at the operating table and thereafter has answered may questions, however, and the approach to the problem of patient selection for mitral valvulotomy is becoming increasingly uniform.

As a practical aid in this connection, Harken and his collaborators,[3] have designed the following patient classification according to the nature and severity of symptoms of mitral stenosis:

Group I—Patients with minimal or absent symptoms.

Group II—Patients in this group are not experiencing increasingly severe symptoms. Their disease, although producing moderate dyspnea or rare severe dyspnea, is remaining relatively stationary.

Group III—The incapacity in these patients is progressive. Their exercise intolerance is becoming increasingly severe and they may suffer from other manifestations of pulmonary hypertension or right ventricular failure. The outlook without surgery for these patients is poor.

Group IV—This group includes patients whose disease has reached a terminal state with pulmonary hypertension and right ventricular failure very resistant to therapy.

Most authorities[3, 11, 14] agree that Group III patients are usually the most suitable candidates for operation. Although the viewpoint varies somewhat in different centers, there is general agreement that surgery should not be recommended for Group I patients since their prognosis is often excellent without it. The operative mortality in Group IV, particularly in individuals with intractable congestive failure, is sufficiently high that operation is advised with some hesitancy, although there have been brilliant results in certain patients. Group II is a borderline group. In 1952 Harken and his co-workers[3] felt that since these patients were not being progressively incapacitated, it was reasonable to defer surgery until operative mortality and technique was further improved. On the other hand Glover et al.[11] in 1953 classified these patients as ideal candidates for the operation. The experience for the next year or two will probably clarify this point.

Uncontrolled subacute bacterial endocarditis and significant left ventricular enlargement due to aortic or mitral valve disease contraindicate operation. Active rheumatic fever is also a contraindication, although recent evidence again shows the difficulty of detecting this state in many patients. In a series of 182 biopsies of the auricular appendage obtained at the time of surgery, 45% showed Aschoff bodies although the usual preoperative laboratory tests had failed to demonstrate evidence of rheumatic activity.[15] The significance of these findings is not entirely clear.

Among the complications of mitral stenosis, significant hemoptysis constitutes evidence that surgery is urgent in an attempt to prevent further bleeding episodes. Similarly a history of arterial embolization does not contraindicate surgery, since the operator may be able to evacuate the left auricle of clot. Postoperatively smaller size and improved function of the auricle reduce the hazard of further thrombus formation. Auricular fibrillation and calcification of the valve likewise are not contraindications.

Despite attempts to construct more or less definite criteria for operability such as those presented above, many patients present special problems requiring further consideration. Mitral insufficiency or aortic valve disease judged to be of relatively insignificant degree are not currently regarded as contraindications to operation.[3, 11] Preoperatively, however, it may be difficult to assess the magnitude of these lesions. Generalizations regarding the patient's age should also be made with caution. Those below age 20 are more likely to show unsuspected evidence of rheumatic fever at operation and postoperatively. Although excellent results have been obtained in individuals over 50, there is no doubt that operation presents a serious hazard to patients in this age group, particularly those with associated degenerative vascular and other disease. Clearly the surgeon will make the decision for or against operation after consideration of the importance of these factors in the total clinical picture.

History of the Operation

The first public statement of the rationale for enlarging a stenotic mitral valve was made in 1902 by Sir Lauder Brunton,[16] an English internist, who realized that the only hope for permanent correction of such a valve lay in surgical attack on the narrowed valve orifice. From that time to the present the development of the operation now employed to treat this condition is one of numerous trials and errors leading to what is now a fairly well standardized operative procedure. In 1925 Souttar,[17] in England, first performed a successful operation for mitral stenosis. This procedure was carried out through the left auricle. The surgeon's finger was introduced through a tight mitral valve and the valve itself enlarged by dilatation. The one patient upon whom this operation was performed was said to have improved temporarily, but the operation was not adopted generally. In 1929 Cutler and Beck,[18] using a valvulotome introduced through the apex of the left ventricle, cut away blindly a portion of the stenotic valve in seven patients. Only one survived, and

his improvement was of such short duration that the operative procedure was abandoned. It has been only in the last five years that the operation has been performed with a reasonable amount of success. This has been accomplished primarily through the efforts of Bailey[19] and Harken,[20] who have been the foremost advocates of the operative technique as it is now recognized. Through the process of trial and error the operation has become fairly well standardized. It is known variously as a commissurotomy or valvuloplasty. The operation is performed almost always through the left auricular appendage, with an attempt being made to divide the valve leaflets from one another in the line of the original commissures. It should be realized that portions of the valve cusps must not be excised and that the valve leaflets must be left in more or less their original size and position if the patient is not to be left with a great deal of insufficiency. In the average patient the mere introduction of the surgeon's finger through the valve orifice with pressure at the site of the commissures is sufficient to separate the two leaflets. In approximately 20% of the patients, however, digital pressure alone is insufficient and some type of incision must be made. Various types of knives have been developed for this purpose.

Present Operation

The preoperative preparation consists of achieving the best possible state of cardiac compensation. For many patients who have been decompensated over a considerable period of time, it is important to institute a regime of bed rest, diuretics and digitalization, if the latter has not already been performed. Evaluation of the patient's electrolyte balance is important since many have been on a low salt diet for many months. After maximum improvement has been obtained, the operation itself is performed through an incision in the bed of the left fifth rib. The pericardium is opened by an anterior longitudinal incision, the auricular appendage identified, and double purse-string sutures placed about its base. A temporary clamp is applied across the base of the appendage and the tip of the auricle is excised. This is saved as a biopsy. Many of these patients have had auricular fibrillation for a considerable period of time, with formation of blood clot within the auricle or its appendage. The temporary clamp is first removed and blood is allowed to flush any clot out through the auricular appendage into the chest cavity. The surgeon's finger is then introduced into the amputated auricular appendage stump, hemostasis being obtained by snugging up the purse-string sutures at the base of the appendage about the finger. With the tip of the finger the surgeon can then explore the valve orifice and assess the degree of stenosis and the amount of regurgitation. The latter is indicated by the force of a jet of blood being forced back through the orifice against the examining finger. In many cases it is possible digitally to separate the leaflets at the commissures, but it is occasionally necessary to use a knife for this purpose. Anatomically the stenotic valves fall into two types. One of these has a calcified ring about the mitral orifice with fairly flexible leaflets otherwise. This type will frequently open up on digital pressure alone. The other type of valve is a funnel-shaped defect, with very tough fibrous tissue uniting the valve cusps at the location of the anterior and posterior commissures. The commissures of this type of stenosis very frequently require cutting with a sharp instrument. Several types of knife have been devised for this purpose. One of these is introduced into the auricle along the surgeon's finger and manipulated within the chamber under digital control. A valve with a cross-section area of less than 1 sq. cm. can often be enlarged to 2 and 3 times that size. After an adequate valve orifice has been established the surgeon's finger is withdrawn and the purse-string sutures tied about the base of the auricular appendage. The cut end of the appendage is then sewed over to achieve permanent hemostasis. The pericardium is closed loosely to avoid tamponade, and the chest wall closed in layers after adequately expanding the lung.

Anesthesia

One of the most serious difficulties in standardizing this type of an operative procedure has been the development of suitable anesthesia technique. If the heart rate is allowed to become rapid many patients may very quickly be thrown into pulmonary edema because of the adverse effects of tachycardia previously noted. Therefore the anesthetist must refrain from using atropine as a preoperative medication, since this will ordinarily cause an increase in heart rate. Occasionally it is necessary to use a parasympathomimetic drug such as prostigmine to reduce heart rate if it becomes too fast during the course of the operative procedure. The primary anesthetic agent which is used is not of paramount importance, but the patient must be kept lightly anesthetized, and it has been helpful to use intravenous procaine in an effort to reduce cardiac irritability. During the operation a continuous electrocardiogram is taken. This aids in the recognition of coronary insufficiency and of disturbances of cardiac rhythm and conduction which may otherwise remain undetected. Often the anesthetist determines his choice of agent on the basis of information being collected by the electrocardiogram.

One of the most dangerous complications following this type of surgery is the occurrence of embolization to the brain or to one of the peripheral vessels. It is our custom, following the suggestion of Harken,[21] at the time the surgeon's finger is introduced into the left auricle to have the anesthetist apply pres-

sure momentarily to the common carotid arteries bilaterally, in an effort to deflect the flow of blood away from the brain. If any clot is broken off from the left auricle at this time, it is hoped that it will travel to one of the extremities rather than to the cerebral circulation. Peripherally it can be more easily attacked surgically than if it had lodged in the cerebrum.

Postoperative improvement may be slow in reaching its maximum. Many of these patients have had pulmonary hypertension over a period of many years with anatomical changes in the walls of the pulmonary arteries. These may require many months to revert to their normal elasticity or they may never do so. These patients do, however, usually develop a marked improvement in exercise tolerance almost immediately following the operation, and this improvement generally continues over several months.

Mortality and Results

The operative mortality from this procedure varies considerably depending on the stage of the disease, the more seriously ill patients having necessarily a much higher mortality rate. In the Group IV patients the operative mortality is in excess of 20%, but often this is not considered a contraindication to the operation since many of these patients would die from their disease within several months if operation were withheld. In Group II and III patients the operative mortality has dropped to below 10%, which seems a reasonable mortality for a procedure of this sort. If, as time goes on, patients can be selected for operation while they are still in reasonably good operative condition, the overall mortality ought to be brought down to a considerably lower level. Of those patients surviving operation there is usually a marked improvement in strength and ability to do work. At the Maine General Hospital over the past year nine patients have been operated upon for mitral stenosis with no mortality. Four of these patients have had their surgery too recently to allow adequate evaluation of the final results. The other five state that they are markedly improved as a result of the procedure. The one major complication of this group developed during the operation in a patient with marked mitral stenosis and auricular fibrillation. Clot was found in the auricular appendage. The mitral valve was enlarged without difficulty but at the completion of the operative procedure the patient was found to have severely impaired circulation to the left leg. A diagnosis of an embolus to the bifurcation of the left common iliac artery was made. Under the same anesthesia the patient was subjected to an embolectomy with restoration of normal circulation to the involved leg. She has subsequently improved considerably and has no residual disability in her extremities. All five of these patients claim to have marked increase in ability to do work and have been very much pleased with the results of the operation.

Summary and Conclusions

1. A satisfactory operative treatment for mitral stenosis has been carefully worked out over the past five years.
2. The operative mortality is sufficiently low to make the operation a practical procedure.
3. A patient who has mitral stenosis and is partially disabled should be carefully evaluated as a candidate for surgical therapy, since he may become completely incapacitated and irreversible changes may develop.
4. There is a reasonable chance of returning to fairly normal activity following the operative procedure.
5. To date there is no reported incidence of recurrent mitral stenosis which would warrant questioning the advisability of performing the operation on a patient over 20 years of age.

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MEDICAL HISTORY

"Spray Therapy" in Polycythemia Vera*
(Translated from the German)

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The use of both local and "total" irradiation with the high voltage Roentgen X-rays in the treatment of polycythemia vera has presumably been largely replaced by other methods of therapy, especially by radio-active phosphorous. Lest we forget, the original work of some scientists and clinicians in foreign lands who on account of race or creed were unable to continue their investigations, it has occurred to me that it would be interesting to submit for publication my earlier translation of one of the original articles of a new treatment of polycythemia vera by Professor Max Sgalitzer of Vienna.

Professor Sgalitzer published his first complete paper on "Spray Therapy" of polycythemia Vera[1] in 1932. The first contribution to the subject in the English language was made by Dr. Francis T. Hunter[2] in the June, 1936, publication of the *New England Journal of Medicine.* Just prior to this, and after communication with Dr. Hunter, our X-ray Department at the Maine General Hospital commenced using this form of therapy. Shortly thereafter, in 1937, I made my second trip to the German speaking world and it was my good fortune to visit Professor Sgalitzer in his clinic where he received me courteously and explained in detail the clinical aspects of "Spray Therapy," at the same time giving me two of his reprints one of which appears in this translation. In this translation, I apologize for all mistakes, and for a few omissions which were intentional as at the time they appeared irrelevant from a practicable standpoint.

Until recently, this method of treatment of patients with the more severe forms of polycythemia vera was the therapy of choice at the Maine General Hospital (the milder forms of the disease were treated by bleeding which is still in use, works well and is a good means of obtaining extra blood for the blood bank). The immediate results of "Spray Therapy" have been very good. The chief difficulty encountered by us is the necessity of frequent check-ups, not only during but following treatment. The patient more often than not neglects the latter until the erythrocyte and hematocrit counts again reach high levels and he becomes ill, sometimes with a fatal vascular occlusion. Failure of the patient to return for reevaluation, however, is not specific for this type of therapy.

Professor Sgalitzer's article appeared under the following heading, and as follows:

Aus dem Röntgeninstitut der I. Chirurgischen Universitatsklinik in Wien (Vorstand: Prof. E. Ranzi).

Röntgentotalbestrahlung bei Polycythaemie.[3] Von Prof. Dr. Max Sgalitzer, Leiter des Röntgenlaboratoriums der Klinik.

"Polycythemia rubra is a systemic disease and is associated with a hyperplasia of the erythroblastic system. It should not be confused with symptomatic polycythemia, although the distinction is not always an easy one. It is not necessary to subdivide genuine polycythemia into the Vaquez type with the enlarged spleen, and the Gaisbock type with the elevated blood pressure, as the clinical findings of both types may be present in the same patient.

"This publication contains a brief discussion of my results with X-ray irradiation in the treatment of polycythemia vera. After eight years experience with this form of treatment, I feel it is possible to give a fairly accurate statement of the lasting results obtained. All of the material which I have accumulated will be published at a later date.

"Teschendorf[4] was the first to use total irradiation in blood diseases when he first suggested this form of treatment in the leukemias. Total irradiation is doubtlessly useful in the treatment of the leukemias. It has been my experience that it works well if used alone during the first 2 years of myelogenous leukemia but later should be used in combination with local irradiation; while in lymphatic leukemia it should be employed from the first in combination with the local irradiation. Naturally, total irradiation has no real effect on the final course of the disease.

"Before the days of X-ray therapy the prognosis of polycythemia vera was not good. A large number of authors have reported the use of the X-ray in this disease. They have irradiated the long bones and the bones of the trunk. With this method a large number of X-ray fields are used (sometimes more than 100) whereby each field is exposed to a high dosage (75 to 100% of HED). Without doubt, the irradiation of so many fields with such high dosage is a waste of time and material and therefore an extremely uneconomical procedure. Furthermore, results are not uniform and early relapses are frequently reported. The numerous defects encountered with this form of X-ray treatment in polycythemia vera induced me to try total irradiation, the same as was advocated by Teschendorf for the treatment of leukemia. With this, the results were good in prac-

* From the Medical Service, Maine General Hospital.

tically every instance. Frequently in patients on whom local irradiation had failed, the irradiation was well born and a much shorter time was necessary before the treatment was effective and relapses were delayed.

"In total irradiation of polycythemia, I start with a higher dosage than is used in the earlier stages of the leukemias. I irradiate at a distance of from 150 to 200 cm., changing from the dorsal to the ventral parts of the body and using 25 R units at each treatment. With my apparatus, it takes about 20 minutes for each irradiation. Only the eyes and genitals should be covered. With total irradiation, one can safely irradiate the pregnant woman by using a broad covering over the entire genital area including the pregnant uterus, while with local irradiation of the bony system the bony pelvis can scarcely be avoided. If we change the total irradiation from the dorsal to the ventral surfaces of the body, a fairly homogenous through and through rays is produced. I give this treatment usually on six consecutive days and then pause a week. At the end of the second week, a complete blood count is done to ascertain the effect on the white blood cells which may drop sharply. It is interesting to know that the resistance to X-ray irradiation is a personal equation, and I have seen patients in whom there was a marked drop in the white blood count after a very short period of treatment while many patients will show no reduction after a week's pause in treatment.

"Irradiation is accomplished usually with least difficulty in those polycythemia patients who have a white blood count ranging from 10,000 to 15,000, as in such instances we are least likely to have a rapid fall in the number of leucocytes. The irradiations should be so arranged that the leucocyte count will not fall below 3,000. With patients, who have demonstrated little tendency toward a leucocyte drop after the first six consecutive treatments, another series may be given after a week's pause,—while with those who have shown a marked drop only four more irradiations should be given. Following a one to one and one-half week's pause, another blood examination should be made—the same as was done following the week's pause after the first series—and, if necessary, four to six more irradiations may be administered. In many patients it will be found that 10 to 12 irradiations will suffice, while in many others double this amount will be required, and in others even a greater number of treatments must be given before the disease is properly controlled. In later stages of treatment the one week's pause between each irradiation series may be stretched out to a period of two weeks. The importance of accurate blood controls should again be emphasized. Now and then a transitory rise in the red cell count is detected following the early part of X-ray irradiation; this is also true in leukemia. Following this, there is a gradual fall which usually extends over a period of several weeks,—sometimes for as long as two to two and one-half months.

"I have seen patients who, after receiving 6 weeks of irradiation (18 to 20 irradiations), did not appear to have derived any benefit from the treatment but some months later the red count returned to normal. The blood picture has returned to normal in all of my 34 patients treated for genuine polycythemia. One month after the beginning of treatment, the leucocyte count was usually below normal although there were no complaints of ill feeling unless the white blood count fell below 3,000. Among the treated patients were several who had been unsuccessfully treated with local irradiation. Especially noticeable was a patient who, in spite of spleen irradiation, showed a steady increase in red blood cells until they had reached almost 12,000,000; two months after the beginning of total irradiation the count returned to normal.

"In spite of the general irradiation, the majority of patients soon feel much better; the weariness, headache and dizziness decreases rather rapidly. The outstanding redness of the face which is a characteristic, visible sign of the disease gradually decreases but usually not rapidly as the dilated blood vessels are relatively slow in contracting. The contrast between the original plethoric appearance of the face and the later blanching is so marked that acquaintances of the patient who have not seen him since the beginning of treatment may not recognize him after the treatment is completed.

"I have seen remissions occur after 1½ to 5½ years, and indeed later, so thoroughly had the first treatment been administered; remissions appear much later in patients in whom the red count has been gradually reduced to below normal with carefully regulated treatment. The best and most satisfactory results are obtained when the treatment is gradually spread over several weeks, when the irradiation therapy is carefully controlled by frequent blood examinations and when the red blood count is finally reduced to 4,000,000. It may be explicitly emphasized that much experience and a very moderate and cautious procedure is necessary in order to obtain good results.

"It seems interesting to note wherein might be the superiority of total irradiation over local irradiation in the treatment of polycythemia. While with high doses of local irradiation there is a direct action on the erythroblastic system, it should not be supposed that there is the same kind of action with total irradiation. With the latter, although the body cavity dosage may be large, the pro-volume irradiation strength is relatively small and one must certainly assume that the irradiation effect of total irradiation is an indirect one and that general action on the whole organism plays an important role; more espe-

cially, probably, is the effect on the blood plasma, the metabolism, and the influence exerted on hormones and ferments.

"In conclusion, it may be said that the results of treatment are more favorable with total irradiation than with local irradiation and that this is especially noticeable in those patients who have failed to react to local irradiation, in whom one can show favorable results with total irradiation. The direct result of treatment is not only better but relapses are slower to appear. Furthermore, both time and material are saved in applying this form of therapy. It is consequently recommended that the above specified technique and the above mentioned precautions are carried out in using total irradiation in the treatment of polycythemia vera and, in closing, I especially wish to mention the importance of accurate blood controls and the responsibility of the problem as a whole."

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BACTERIAL MENINGITIS IN INFANTS — AIDS TO EARLY DIAGNOSIS AND INITIAL THERAPY*

George W. Hallett, Jr., M. D., F. A. A. P.

It is not the purpose of this paper to review the classical symptoms and signs of meningitis, nor to enumerate rare types, or their treatment. An attempt will be made to outline some frequently neglected aspects, in diagnosis and therapy, of the more common types in children under one year of age. A delay of even 8 hours in accurate diagnosis at this age not infrequently leads to either death, or a sterile but poorly functioning brain. Institution of improper, or insufficient, initial therapy may be equally devastating. The younger and smaller the child, the more speed and accuracy are required.

In most cases of pediatric illness the chain of events goes in this manner: 1.) Telephone description. 2.) Home examination. 3.) Laboratory testing. 4.) Initial therapy. This sequence will be used in the discussion.

I. The Telephone Call

While there is nothing very specific about the information obtained from a parent, it may lead us to suspect, or wish to rule out, meningitis. The common symptoms under 1 year of age are:

1. Fever — not necessarily high, and commonly absent in prematures, or during the neonatal period.
2. Fussiness — varying from mild indisposition to extreme irritability.
3. Failure to eat or drink — lack of interest in foods is an early sign.
4. Gastrointestinal symptoms — vomiting occurs frequently, diarrhea occasionally.
5. Inability to sit or stand, presupposing the baby had reached this stage of development.
6. Convulsive movements — ranging from mild twitchings to generalized convulsions.

II. Home examination

Under 1 year, the classical signs of stiff neck, Kernig, and even Brudzinski are commonly absent. We must therefore rely on other aides, and a great deal on intuition.

1. "Looks sick" — for this reason alone, and in the absence of any other positive findings, a spinal tap is often indicated.
2. Stiffness — of legs or back muscles, and, of course, neck, may be mild and difficult to elicit. Their absence does not rule out meningitis.
3. Lack of protest over examination, and lack of interest in examiner, is common.
4. Tense fontanelle — in a quiet infant; this is a danger sign.
5. Petechiae — practically guarantee a meningococcal meningitis.
6. Eye signs — glassy or fixed stare, strabismus, or nystagmus.
7. Ear signs — an otitis media may not be simply the cause of various non-specific symptoms, but the entry point for a meningeal infection.

III. Laboratory testing

Having once suspected meningitis, it is of the utmost importance to administer no chemotherapeutic agent or antibiotic until the laboratory tests have been drawn. This is not to await the results of these tests; it is merely to obtain them. If facilities for a spinal puncture are nearby, there should be a lapse of no more than 1 hour between home examination, lumbar puncture, and initial therapy.

If the spinal fluid is cloudy, diagnosis is practically certain. Ideally, it is best to do the following examinations in addition to the spinal fluid — but unnecessary in the absence of facilities:

* From Pediatric Service of Maine General Hospital.

1. Complete blood count.
2. Urinalysis.
3. Tuberculin test.
4. Cultures: nose, throat, blood, urine, stool, and petechial scrapings.

In the major hospitals, the above tests should probably always be done. With the exception of urine, the material for all these tests can be obtained in 15 minutes or less, and on occasion they are invaluable in accurate diagnosis.

Spinal fluid, or subarachnoid fluid, are however, practically essential. A short-beveled #22 sterile spinal needle, a sterile test-tube, and an antiseptic are the only essential materials. Manometer pressures are helpful, but usually unnecessary. If spinal fluid is unobtainable, usually 1 or 2 c.c. of subarachnoid fluid may be obtained from a lateral angle of the anterior fontanelle.

If the child is extremely ill, it is inadvisable to await the complete examination of cloudy spinal fluid. Intravenous fluids and antibiotics should be started immediately. If the spinal fluid is cloudy, but the child is not particularly ill, a delay of not more than 1 hour in starting therapy is warranted, in order to establish an exact diagnosis.

Spinal fluid examination: Exact cell count and differential, protein, sugar, and chloride measurements are always important to obtain. However, finding the causative organism is the paramount task. Search for the etiological bacteria must be instituted immediately on smears, and cultures planted for substantiation and for sensitivities. In the one year and under age group we are searching primarily for one of the following organisms:

1. E. coli — particularly in prematures and neonatals.
2. Staphylococcus — particularly in prematures and infants under 2 months.
3. Pneumococcus — particularly under 6 months.
4. Hemophilus influenza.
5. Meningococcus.
6. Streptococcus.
7. Tubercle bacillus.

IV. Initial therapy:

Most infants with meningitis are in a state of mild or severe shock. For these children, the first therapeutic effort should be to start an intravenous at once, immediately following lumbar puncture. A good, safe, initial fluid to use is a mixture of the following preparations:

Isotonic sodium chloride	600 c.c.
5% Dextrose in water	400 c.c.
	1000 c.c.

Fluids should be infused at a rate of about 1 c.c. per minute, and no faster. 50 c.c./hour is a safe rate for most babies under one year; but, under 2 months of age, 25 c.c./hour is better.

In special cases, oxygen and anticonvulsants may be necessary. Adrenal cortical extract and cortisone are of benefit in the rare complication of adrenal failure due to Waterhouse-Friedrichson syndrome.

If a definite pure organism is found immediately, initial antibiotic therapy is relatively easy, depending on which of the many diverging authoritative opinions one follows. While there is unquestionable disagreement, one could not be severely criticized for using some combination of the following drugs:

1. E. Coli:
   a) Streptomycin 44 mgm./KG/day
   b) Terramycin 40 mgm./KG/day
   c) Gantrisin 100 mgm./KG/day
2. Staphylococcus:
   a) Erythromycin 50 mg./KG/day
   b) Penicillin 3,000,000 U/day
   c) Chloromycetin 40 mgm./KG/day
3. Pneumococcus:
   a) Penicillin 3,000,000 U/day
   b) Aureomycin 40 mgm./KG/day
4. Hemophilus influenzae:
   a) Chloromycetin 40 mgm./KG/day
   b) Streptomycin 44 mgm./KG/day
   c) Gantrisin 150 mgm./KG/day
5. Streptococcus:
   a) Penicillin 2,000,000 U/day
   b) Aureomycin, Chloromycetin, or Terramycin
6. Meningococcus:
   a) Gantrisin 100 mgm./KG/day
   b) Penicillin 2,000,000 U/day
7. Tubercle bacillus:
   a) Streptomycin
   b) Para-amino salicylic acid
   c) Isonicotinic hydrazide

If no organism is immediately forthcoming, our problem is theoretically greater. Which of the myriad of chemotherapeutic agents and antibiotics do we select? For a fatal disease such as meningitis, shotgun therapy is the method of choice. This all too common situation is met in two of the leading pediatric centers of the eastern U. S. by the following initial combination:

1) Penicillin, aqueous, 300,000 U I.M. every 3 hours.
2) Streptomycin 44 mgm./KG/day, given at 6-hour intervals.
3) Gantrisin 50 mgm./KG immediately, followed by 100 mgm./KG/day given at 6-hour intervals.

It is felt that this group of drugs will adequately, if not dramatically, hit all of the common organisms, and keep them submissive until an exact bacteriological diagnosis can be made.

Approximately 2 hours have elapsed since the tele-

phone call was received. We have diagnosed meningitis, drawn various tests for substantiation, started intravenous fluids, and given the orders for a combination of drugs that will reach all of the common organisms.

In event that the laboratory reports the presence of a rare causative agent such as "Pseudomona" or a "Listerella", we should consult with the laboratory about more tests and with our Staff colleagues for further opinions regarding treatments.

MANAGEMENT OF ACUTE OCULAR INJURIES

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It frequently happens that it is not an ophthalmologist who first treats an acute ocular injury. As impaired ocular function can be significantly reduced by adequate measures instituted promptly in such cases, the following presentation is designed to help the busy practitioner differentiate the more common of those ocular injuries which he can treat himself from those which are fraught with complications or require special care.

If the patient is suffering from extensive bodily or head injuries, obviously the examiner's first thought is to stop bleeding, combat shock, prepare the patient for emergency surgery, etc. Under these circumstances it is best to inspect rapidly the injured eye or adnexa, cleanse a wound gently as indicated, apply a sterile dressing, and defer further manipulation until the patient's general condition permits or until an ophthalmologist is available.

Adequate appraisal of an ocular injury requires the use of a good light, a magnifying glass, an ophthalmoscope, and if possible a slit lamp. The following routine should be established:

(a) Determine visual acuity. This is important from a prognostic as well as medicolegal consideration. If possible this should be done with a Snellen chart at 20 feet; however, a Wells, Jaeger, or Lebensohn card at 14 inches may suffice. If vision is greatly reduced, the ability to count fingers at a measured distance, detect hand movements, or project light should be recorded.

(b) Determine extraocular movements and a quick confrontation field.

(c) Inspect and palpate the lids, orbit, and globe to note lacerations, fractures, bleeding, edema, malposition, and intraocular tension.

(d) Inspect the conjunctiva, sclera, and cornea to detect surface foreign bodies, abrasions, lacerations, congestion, prolapse of intraocular tissue, and possible site of entry of an intraocular foreign body.

(e) Inspect the anterior chamber for depth, hemorrhage, foreign bodies, and the condition of the iris and pupil.

(f) Observe abnormalities in the lens.

(g) Examine the vitreous, retina, and choroid for hemorrhage, intraocular foreign body, edema, retinal detachment, or other abnormalities.

(h) Observe any abnormalities of the optic disc.

Injuries to the lids and adnexa.

Simple lacerations of the skin and orbicularis muscle of the lids, not involving the lid margins, are treated according to the usual surgical principles. Clean wounds of skin of the lids heal well and are prone to leave little scar.

Through and through lacerations of the lids, which usually involve the lid margins are a more serious matter, as after healing they tend to form a notch which is not only disfiguring but, when in the lower lid, forms a funnel for tears and causes tearing. This notch usually results even though careful approximation is effected by the surgeon and is due to the uneven contraction of the fibrous tarsus. Such wounds should be repaired by an ophthalmic surgeon by one of the methods of Wheeler, Hughes, or Minsky.

Stab wounds of the upper lid may involve the tendon of the superior levator muscle. Wounds in the mid-line, above the globe, associated with ptosis which seems more than that to be expected mechanically from ecchymosis, should be suspect.

Of especial interest are those wounds of the medial portions of the lids, through the lid margins, which involve the lacrimal canaliculus. If the laceration projects medial to the lacrimal punctum, it very likely also traverses the canaliculus. It also may have avulsed or transfixed the medial canthal ligament. These cases usually challenge the ophthalmologist's utmost patience and skill in restoring continuity of the canaliculus to prevent subsequent troublesome epiphora and in repairing the canthal ligament to forestall an ectropion. To do less than this accomplishes little.

Injuries to the globe.

Two very minor injuries should be mentioned first, the corneal abrasion and the corneal foreign body. The former, caused by a glancing blow which denudes or scratches the corneal epithelium, is exquisitely sensitive and unpleasant. It can readily be diagnosed

by history and by observation with a flashlight or the ophthalmoscope set at plus 4. Treatment is simple—an ophthalmic ointment such as 10% Sodium Sulamyd or 1% Pontocaine hydrochloride and a tight patch. The foreign body, on the other hand, may be more difficult. Adequate anesthesia with topical instillation of ½% Pontocaine hydrochloride is essential. Then, with adequate illumination and preferably magnification, attempt is made lightly to wipe the foreign body from the cornea with a fine cotton applicator. If two or three swipes are unsuccessful, it usually is fruitless to persist, as the foreign body is probably imbedded and requires removal with a sterile spud. If this instrument is available it should be used carefully, with good light, magnification, and elevation of the lid with the fingers, followed after removal of the foreign body by any of the many good anti-infective ophthalmic ointments and a snug patch. It should be remembered that ferrous foreign bodies are prone to rust the corneal tissues underlying them, even after only several hours, and that after successful removal of the body itself the eye may remain inflamed by the rust. The latter must also be removed as completely as possible.

Non-penetrating contusions of the globe are a frequent injury and can be caused by any sudden, compressing blow. The types of injuries seen run the gamut of all the ocular tissues and, as with the contrecoup type of head injury, the major injury may not be apparent at first but may destroy vision by involvement of the macula, choroid, or optic nerve situated at the posterior pole opposite the blow.

One of the commonest injuries seen as a result of contusion is hyphemia of the anterior chamber, which results from rupture of a small vessel in the iris or ciliary body. The hyphemia is diagnosed by the reddish appearance of the aqueous, which obscures details of the iris, pupil, and lens. Later, if the bleeding ceases, a fluid level may form. A hyphemia should be appraised soberly. The patient should be put at absolute bed rest, with double eye patches and adequate sedation, until all the blood is resorbed. Some oculists recommend atropine, some pilocarpine, and the writer uses neither. When the blood is completely resorbed, the patient may be ambulated cautiously; however, a small hyphemia sometimes resorbs in two or three days and in an optimistic atmosphere the patient is allowed too much activity, which results in a recurrent hyphemia, greater than the first, which is difficult to treat, often clots, and results in secondary glaucoma or hematogenous pigmentation of the cornea. Consequently, the writer advocates conservative management of such cases and favors bed rest for up to a week in the average primary case. A hyphemia is usually caused by a flying missile, which also may cause edema, ecchymosis, or laceration of the lids, and abrasion or edema of the cornea; these injuries usually heal, or are managed routinely.

Injuries of the iris are prone to follow blows to the eye, even if hyphemia does not occur. Traumatic rupture of the sphincter pupillae, resulting in a pupil larger than its fellow, often irregular, with poor reaction to light is common. Iridodialysis also occurs but seems to require a more severe blow. Subluxation of the lens, with its tell-tale iridodonesis, and traumatic cataract may be seen. Vitreous hemorrhages, traumatic edema of the macula, preretinal and retinal hemorrhages, tears and hemorrhages of the choroid, detachment of the retina, partial rupture of the lamina cribrosa, and avulsion of the optic nerve are some of the other commoner injuries of the posterior pole. Of special interest is the choroidal tear, which is disposed to involve the macula by contrecoup transmission of the force, and which usually damages vision.

As a general rule, if any of these conditions is suspected it is wise to put the patient to bed with a double eye patch, until he is seen by an oculist. If transportation of the patient is unavoidable, travel on a stretcher is safest.

In the case of perforating wounds of the globe the serious nature of the injury is at once apparent by the presence of a laceration of the cornea or sclera, absence of the anterior chamber, prolapse of uveal tissue or vitreous, etc. In such a case it is wisest to do nothing more than place a sterile dressing securely, but not tightly, over the eye and arrange immediate consultation.

Far more important are those perforating wounds where the wound of entry is small or punctate, where the chamber is not collapsed, and consequently where the perforation may not be suspected. Such wounds could be caused, for example, by penetration of the end of a wire or cable, or by a sharp particle traveling at high speed. The patient himself may believe only that he has a foreign body in the eye; and it is easy to pass off such a patient by saying that he has none, if there is no visible wound. The end result of such an inadequately treated injury can be infection, cataract, sympathetic ophthalmia, or loss of the eye. In the largest eye clinics, such neglected cases present as a group one of the lowest visual results. The best prophylaxis is a high index of suspicion.

The patient presents himself saying he was working at a machinist's bench, or driving nails, or breaking stones, and that something flew into his eye following which his vision was blurred. If the intraocular foreign body is fairly large (e.g. 3 x 2 x 3 mm.) its wound of entry may be detected in the cornea or sclera. However, a smaller particle can penetrate the sclera, need not impair the vision immediately, and may leave such a minute wound of entry as to defy detection with ordinary means. In such a case, however, if the suspicion is present, the patient

should be referred to an oculist for slit lamp examination, ophthalmoscopy, X-ray, and any of the other localizing techniques. Steel, iron, brass, or copper particles if found should be removed at all costs; silver, gold, tantalum, platinum, and glass tend to be inert and under certain circumstances may be allowed to remain.

Burns of the globe.

It is fitting to mention first the "flash burn" resulting from exposure of the cornea to the ultraviolet radiation emanating from the welder's arc. It is usually the welder's helper, or a foreman, who stands around without a mask who is afflicted. There is a latent period, as with sunburn, of several hours before symptoms of photophobia, pain, tearing, and blepharospasm appear. Fortunately the burn is superficial and short-lived, leaves no residual, and is easily treated with pontocaine ointment.

Thermal burns of the lids and globe, where not associated with a fatal outcome, are distinctly a specialized problem.

Chemical burns of the lids and globe are an important and common injury in our modern industrial practice and to the author's mind represent the only ocular emergencies where minutes count, inasmuch as adequate treatment delivered quickly may be sight-saving. The clinical effect of a chemical burn depends upon the amount and duration of exposure, the type of reactivity of the chemical agent, and the latter's solubility and solvent properties. The damage to the eye may range from transient superficial disturbance to devastating destruction of the anterior segment. With the single exception of arsenical or lewisite burns, for which BAL is used, there is no need to search for antidotes. Immediate and profuse irrigation with water or normal saline is the best treatment. Precious minutes wasted in searching for antidote tables are better spent holding the patient's head under a water faucet, over a water bubbler, or in a pail of water. Later, topical anesthesia can be effected with liberal use of ½% pontocaine hydrochloride, following which particles, such as lime stuck to the lids, may be removed with cotton applicators. The aqueous irrigation should last at least thirty minutes but depends largely on the type of exposure, liquid and solid substances being most noxious and gasses or vapors less so. After anesthesia has been obtained and all particles are removed, continuous irrigation may be maintained by use of asepto syringes or rubber tubes, while the patient reclines with lids held apart. In general, acidic toxins quickly demarcate the extent of the injury by coagulating or denaturing the corneal proteins, whereas alkaline toxins do not do so and continue to react even if the cornea is clear. Following the irrigation, atropine and an antiseptic ophthalmic ointment are applied, and the patient put to bed with double eye patches. Considering the seriousness of medicolegal implications in such cases, it is always wise to obtain ophthalmological consultation as soon as possible.

Summary

A discussion is presented of the management of acute injuries of the eye and its adnexa, including lacerations of the lids, perforating and non-perforating wounds of the globe, and radiant, thermal, and chemical burns.

RINGWORM CONTRACTED FROM CATTLE IN MAINE

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Although fungus infection due to Trichophyton faviforme is apparently quite common in man in rural areas of New Hampshire and Vermont,[1] until recently I have failed to observe a case that acquired the infection in the State of Maine.

In 1947 Fowle and Georg[2] reported 23 cases of suppurative ringworm contracted from cattle in central Pennsylvania. They obtained 18 positive cultures and reported 12 cases caused by Trichophyton discoides and 2 cases caused by Trichophyton album. Carney[3] has stated that Trochophyton faviforme seems to be the most common cause of inflammatory ringworm of animal origin in Iowa, and Walker,[4] that Trichophyton discoides is the commonest cause of ringworm in cattle in Great Britain. Sylvest[5] found in Denmark an increase in incidence of Trichophyton faviforme which he attributed to a rise in frequency of ringworm among cattle, and more recently the studies of Jillson and Buckley[1] showed Trichophyton faviforme to be the common causative organism in New Hampshire and Vermont. Perhaps further study will prove it to be a much more common cause of ringworm in Maine than has been suspected hitherto. All cases reported in the past have had either direct or indirect contact with animals. The majority of cases have occurred among farm workers.

Trichophyton faviforme has been described under a variety of names in the past, but Georg,[6] using single spore cultures, has demonstrated T. album, T. discoides, and T. ocraceum to be all variants of a single species, T. faviforme. Recently Moss and McQuown[7] listed the above fungi as synonymies.

Report of Cases

Case 1. — R. L. C., a 5-year-old male, was referred to me by Dr. Eugene E. Brown of Bangor. The

patient's mother stated that the boy had been well until December 18, 1952, when he developed a rash on the right side of his forehead. In spite of therapy by the family physician the eruption continued to spread, and the patient was referred to Dr. Brown, who in turn referred him to me.

Examination on January 8, 1953 revealed a well developed and well nourished male child who appeared to be acutely ill. Temperature was 101° F. There was a large erythematous, edematous, boggy mass that involved the entire right side of the forehead and extended well within the hairline. The surface of the mass was covered with crusts and numerous pustules, and the appearance was not unlike that of a large carbuncle. Nodules dotted with follicular pustules were scattered about the face and occipital area, and flat, crusted, impetigo-like areas were present on the upper lip and about the nares. A smooth nodule covered with a normal appearing epidermis was present on the left upper eyelid (Figs. 1 and 2).

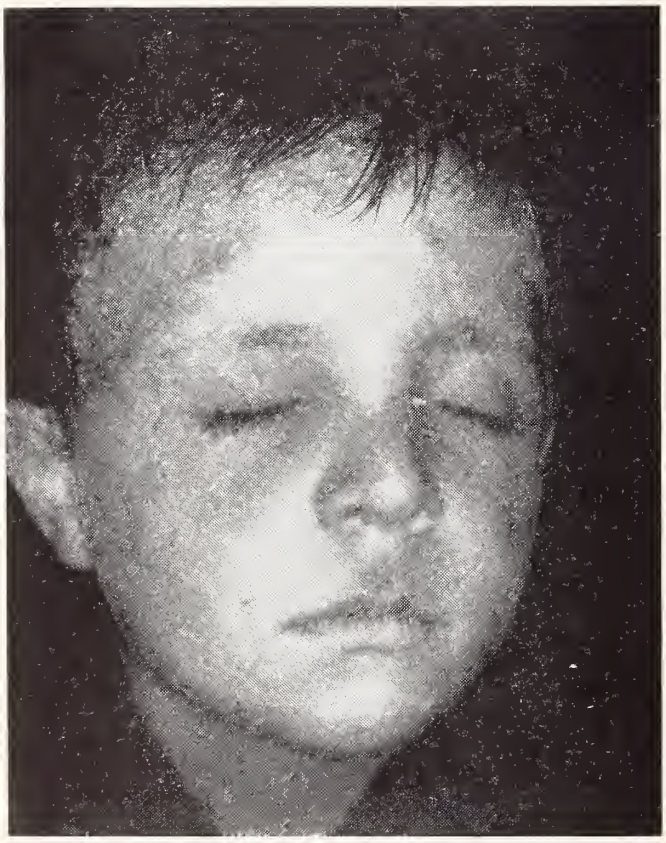

Fig. 1—Case 1

A circinate, erythematous, scaly patch was present on the right forearm. The cervical glands were enlarged but non tender. Examination under Wood's light failed to reveal fluorescence. The patient was referred to the Maine General Hospital where he received boric acid compresses, manual epilation of infected hairs was done, and pustules were drained. Because a penicillin sensitive Hemolytic staph. aureus was isolated from the scalp lesion, penicillin was

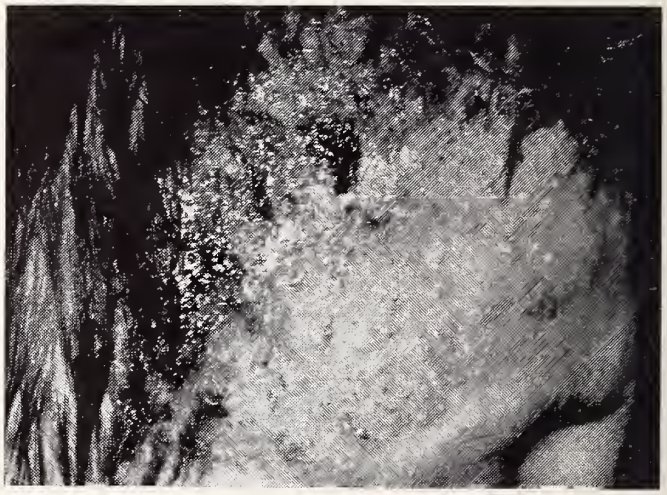

Fig. 2—Case 1

given. Blood studies revealed hb., 10.3 gms., r.b.c., 3,720,000, w.b.c., 15,750 with 81% segmented polys. and 19% lymphocytes. The urine was negative except for acetone 3+. The patient responded very well and was markedly improved at the time of his discharge from the Hospital on January 18, 1953. I again saw him on March 7, 1953, at which time the eruption was clear except for residual erythema and a few scattered minute papules (Fig. 3). On June 26, 1953, the mother reported that the skin was completely clear and that there was a regrowth of hair on the scalp.

Case 2. — R. N. C., aged 11 years, a brother of Case 1, was seen by me because of an eruption on the right wrist and forearm of about 2 weeks in duration. In January, 1953, he had had a similar eruption that cleared following treatment with tincture of iodine. In spite of treatment with iodine the new eruption continued to spread peripherally. Examination on March 7, 1953, revealed two large concentric patches on the dorsum of the right wrist and another patch on the extensor surface of the right forearm. The patches were erythematous and slightly scaly, and minute papules were scattered about the surfaces. The borders of the patches were slightly elevated (Fig. 4). In addition a diffuse slightly erythematous and scaly patch about 2.0 cm. in diameter was present on the left temple (Fig. 5). The area did not fluoresce under Wood's light. A saturated solution of potassium iodide was prescribed, and the mother was instructed to apply tincture of iodine to the lesions. I later learned that the boy developed a pustular eruption on the temple similar to that of his brother, and following treatment with boric acid compresses and manual epilation of infected hairs the area cleared. Because of exposure to T. faviforme, the clinical appearance of the eruption, and the subsequent course, I believe that this case may be considered to be due to T. faviforme even though a positive culture was not obtained.

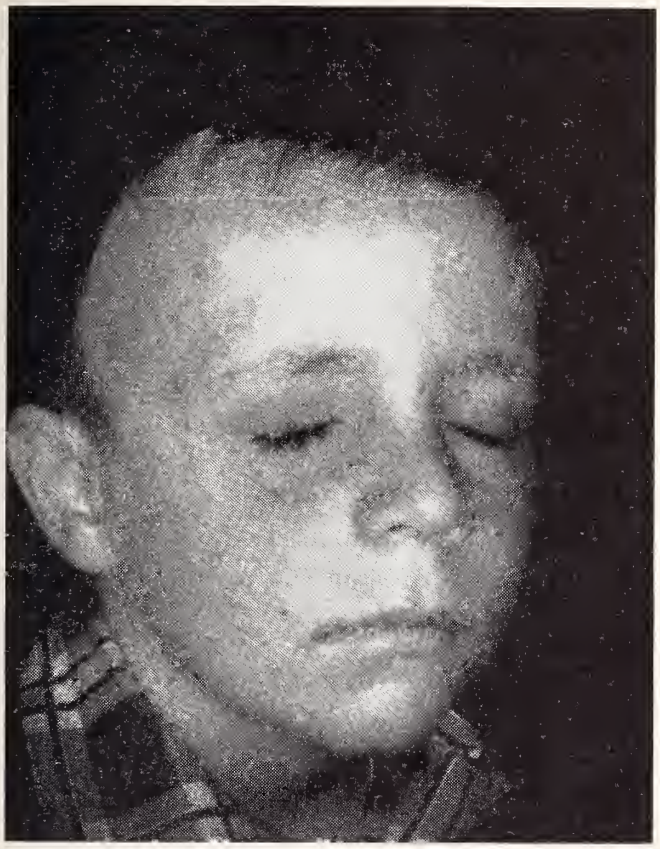

Fig. 3—Case 1

The mother of R. L. C. and R. N. C. also reported that she had developed on a forearm an erythematous patch that was similar to the ones on the forearms of her sons. Prompt treatment with tincture of iodine resulted in an early cure.

Case 3. — W. R. H., aged 11 years, was referred to me by Dr. Sidney R. Branson of South Windham because of an eruption on the dorsum of the right wrist of about two weeks in duration. Examination on April 28, 1953, revealed a circinate, erythematous patch that covered the entire dorsal surface of the right wrist. The surface of the lesion was dotted with numerous papules. The patch did not fluoresce under Wood's light. An ointment containing precipitated sulphur and salicylic acid was prescribed, and on May 6, 1953, the lesion was covered with numerous pustules, typical of agminate folliculitis. When last seen on May 20, 1953, there was marked improvement of the lesion. While no history of direct contact with cattle could be obtained, the patient lives in a rural community and, according to Dr. Branson, was exposed to other cases of ringworm.

Clinical Picture

Although the inflammatory type is most commonly seen, T. faviforme can produce a variety of lesions which may resemble infections with the more common fungi or they may resemble bacterial infections such as impetigenous or carbuncular lesions. The following clinical types have been observed and may occur singly or in various combinations:

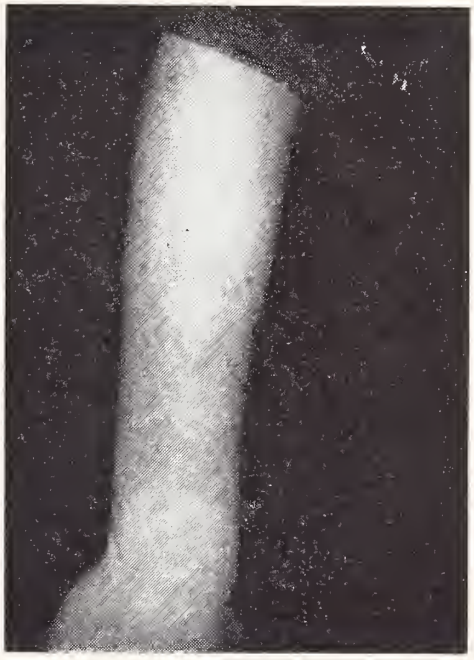

Fig 4—Case 2

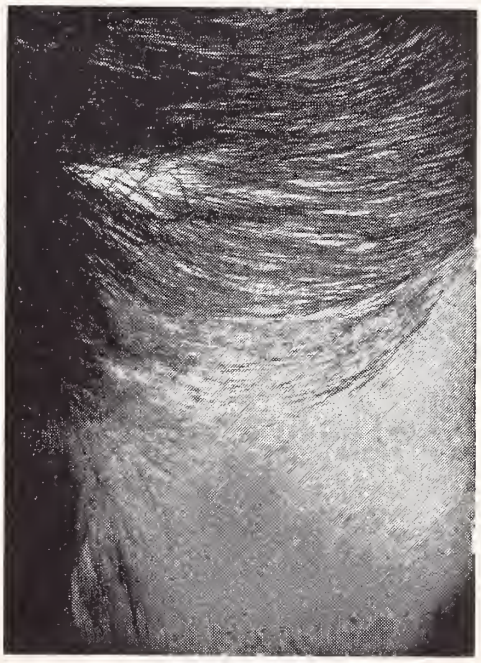

Fig. 5—Case 2

Kerion lesions which are large, boggy masses that arise abruptly from the surrounding tissues. They are covered with crusts and contain numerous areas draining pus.

Typical ringworm patches with an active periphery.

Flat plaques with an impetiginized surface and flat crusts.

Agminate folliculitis (nodules or plaques dotted with perifollicular pustules).

Granuloma of Majocchi (nodules with a normal overlying epidermis).

Lesions resembling plaques of seborrheic dermatitis as noted by Sabouraud.[8]

Mycological Studies

Microscopic examination of hair taken from Case 1 failed to reveal the presence of a fungus. Several tubes of Sabouraud's dextrose agar were planted with hairs from the involved areas of the scalp. I encountered the same difficulty reported by others (9 and 10), i.e. contaminants swamping the slow-growing fungus. However, at the end of 10 days one tube contained minute, whitish, glabrous, bacteria-like colonies, about 1.0 mm. in diameter, present about each hair. Microscopic examination of a colony revealed the large chlamydospores typical of Trichophyton faviforme, abortive chandeliers, and wavy hyphae (Fig. 6). While one does not expect to

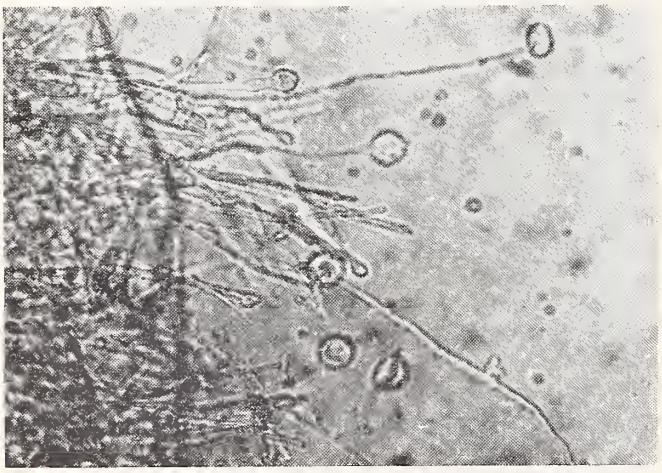

Fig. 6—Case 1

see typical favic chandeliers in cultures of T. faviforme, they have been reported by Behrman.[11]

Scrapings taken from Case 3 and planted on Sabouraud's dextrose agar on April 28, 1953, were overgrown within a few days with Aspergillus, one of the common contaminants.[12] However, another culture planted on May 6, 1953, revealed a white, waxy, glabrous colony that attained a growth that measured 0.6 cm. after 50 days. Microscopic examination of the colony revealed the large chlamydospores that are typical of T. faviforme.

Because of the slow growth of T. faviforme, liver infusion agar,[13] and the addition of thiamin or incubation[1, 2, 3] have been used to facilitate growth. Ajello[14] advised the use of both Sabouraud's dextrose agar and Thiamin dextrose agar for all cultures of both plucked hairs in cases of Tinea capitis and skin scrapings in Tinea corporis.

Treatment

Since inflammatory ringworm caused by T. faviforme, like that due to other fungi, is self-healing, no active treatment is necessary to kill the fungus. Compresses at room temperature, manual removal of loose hairs, and draining of pustules are all that are usually necessary to give symptomatic relief and to aid the healing process. Roentgen therapy is not necessary in inflammatory ringworm. Antibiotics are rarely needed. Penicillin was used in Case 1 only because the patient appeared to be toxic, and a penicillin-sensitive hemolytic staph. aureus was isolated. However, he was watched most carefully since it is well known that an "id" may be precipitated by penicillin.

On small superficial lesions tincture of iodine is usually effective when used early. A sulphur and salicylic acid ointment was adequate in Case 3. Non-inflammatory lesions may require the use of iodides by mouth to provoke a local reaction in order to obtain healing. Repeated injections of trichophytin to stimulate a local allergic response have also been used.[1]

Comment

Human infections with T. faviforme affect adults as well as children. Kerion lesions on the cheek and neck may be so indurated as to suggest Actinomycosis.[15] Early lesions confined to the scalp may resemble Seborrheic dermatitis. Pipkin[16] has also described a mild inflammatory, seborrhea-like scaling in Tinea capitis due to T. tonsurans.

Since hair infected with T. faviforme does not fluoresce under filtered ultraviolet rays, we must heed the warning of Levin and Behrman[17] who emphasized the fact that the incidence of fungus infections may increase if children are allowed to remain in school because of the lack of fluorescence.

Summary

Trichophyton faviforme infections contracted from cattle in Maine are reported.

Six clinical types have been described: kerion, ringworm-like patches, impetiginized plaques, agminate folliculitis, granuloma of Majocchi, and plaques resembling Seborrheic dermatitis.

Trichophyton faviforme affects adults as well as children.

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SPONTANEOUS SUBARACHNOID HEMORRHAGE AND INTRACRANIAL ANEURISM

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Spontaneous subarachnoid hemorrhage is a syndrome of sudden onset, severe symptoms, and grave prognosis, striking both sexes and nearly all ages.

Its overall importance is seen by analysis of two large series of cases of sudden death, one series being civilian, the other from the supposedly selected military population. These series showed it to be the cause of death in two percent and five percent of cases respectively. Case series of subarachnoid hemorrhage per se reveal more dramatically its importance to the patient and the reasons for the increasing attention paid it in recent years by medical practitioners in general, and neurosurgeons in particular. Exact figures and percentages from various case series show a wide divergence, since they can be influenced by many factors, but all reveal the gravity of the disease. There is no marked sex preponderance. The initial episode may occur from below twenty to over seventy years of age, with the majority of cases falling in the thirty-five to sixty year age range. Contrary to popular belief, physical exertion is not a very important factor, with many cases starting during inactivity or sleep. One large series gives the following figures concerning mortality: in a first episode, mortality is fifty-five percent, and in repeated episodes, seventy-two percent. This means that the patient suffering a recurrence has only one chance in three of survival. The percentage of recurrence in large series ranges from thirty to fifty percent, and ultimate survival from thirty-five to forty-five percent. Many authors feel that this is an overly optimistic picture, due to inadequate or short follow-up, and none of these figures take into account the patient who survives as a neurological cripple. Two conclusions may immediately be drawn. The first is that the attending physician had best not be too complacent or casual in considering or predicting prognosis of a case, even though the patient seems to be making good progress at the moment. The second point, one often forgotten, is that any therapy which materially reduced recurrence could have a high procedural mortality and still give an improvement in final survival figures.

The symptoms of onset of this disease form a fairly well-established pattern. Severe headache, of almost instantaneous onset, followed by nuchal rigidity and vomiting is the usual picture. Loss of consciousness is frequent, and carries a bad prognostic significance. The presence or absence of specific neurological signs such as hemiplegia depends entirely on the amount of brain damage accomplished by the hemorrhage, and is not a basic part of the picture. Papilledema and retinal hemorrhages are often seen, and the patient may exhibit other signs of a rapidly rising intracranial pressure, such as slowing of pulse and respiration, and peripheral hypertension. In actuality, the diagnosis is suggested by the history, and verified by a spinal tap showing bloody fluid under increased pressure.

The treatment of the patient during the acute phase is essentially that old medical stand-by, supportive therapy. Fluid and electrolyte balance must receive attention, and adequate respiratory exchange is of the utmost importance. In this connection, it should be emphasized that even a minimal reduction of oxygen or rise in carbon-dioxide has an extremely adverse effect on a patient suffering from high intracranial pressure or cortical damage. Stuporous or comatose patients may improve remarkably following a tracheotomy, even when there is no demonstrable upper-respiratory obstruction. The improvement results from the greatly improved efficacy of endotracheal suction applied through a tracheotomy, and the resultant improved recovery of secretions from the bronchial tree.

The treatment of the patient who survives the acute phase is aimed at prevention of recurrence. It should be pointed out that the greatest danger of recurrence starts at the beginning of the second week, and runs through the fourth week. Definitive therapy must therefore be planned without too much delay. One cannot wait too long for the patient to get well, but bed-rest and avoidance of transportation for a few days following onset of hemorrhage seems desirable. If the patient gives indication of continued bleeding and deterioration of condition in the days immediately following onset, immediate definitive therapy should be instituted.

Therapy, of course, rests on knowledge of etiology, and the etiology of spontaneous subarachnoid hemorrhage has recently undergone extensive investigation. The results may be summarized by saying that the vast majority of episodes are due to the rupture of a "congenital" or "berry" aneurism on an intracranial artery. Vascular malformations, arteriosclerotic arteries, and mycotic or luetic aneurisms are statistically of minor import. The berry aneurisms are commonly located at arterial bifurcations on or near the Circle of Willis, and apparently arise by gradual expansion of a congenitally defective area of arterial wall. Their geographical location places responsibility for definitive therapy on the shoulders of the

neurosurgeon, a fact that he would frequently like to forget.

Location of the offending lesion is the first step in therapy, and carotid angiography is the method universally used. In this procedure, a contrast media, either Diodrast or Thorotrast, is injected into the carotid artery, and travels with the blood flow into the intracranial circulation. A properly timed skull film, therefore, reveals the major intracranial arteries filled with contrast media. Angiography originally required a minor surgical procedure to expose the artery, but most clinics now use the simpler percutaneous technique.

Once the lesion is pin-pointed, choice must be made between treatment by simple carotid ligation and direct intracranial attack. Carotid ligation is the older and simpler method, and is still favored by many clinics. Its purpose is to so reduce the pressure within the aneurism that clotting and subsequent fibrosis may take place. Unfortunately, many patients, even in the younger age groups, will not tolerate sudden loss of one carotid, and ligation may lead to hemiplegia or even failure to survive. It is also quite doubtful that carotid ligation has much real effect on aneurisms arising above the intracranial bifurcation of the internal carotid.

The direct intracranial approach aims to ligate the sac of the aneurism directly, or to trap it between two ligatures placed on the vessel from which it arises. The first maneuver may be performed only if the sac is long enough and thin enough to ligate, and the second only if the vessel concerned may be sacrificed without crippling the patient. Both require the exposure and manipulation of the fragile aneurism sac, rupture of which on the operating table may well lead to disaster. It is not surprising that, as yet, the intracranial approach carries a considerable mortality.

A survey of the situation as presented may at first seem extremely discouraging, and indeed it is grave. Two points, however, must be remembered. The first is the unhappy statistical outcome of series of untreated cases, giving a wide field for improvement. The second point is that the definitive treatment of intracranial aneurism is really in its infancy, and, like any new surgical approach, may be expected to improve with time and practice.

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The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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EDITORIAL SECTION

The President's Address

The record of the Maine Medical Association for the past One Hundred Years, as presented by the retiring President, Eugene H. Drake, is published as our leading article in this month's issue of the JOURNAL. Dr. Drake's interest in the history of the Association, his manifold experience in administration and his keen observations on the realistic aspects of medical practice make him well equipped to compile a record.

He deals frankly with our past and present and looks at the future with a clear and straightforward vision. He thinks our predecessors did their work well and expects that our contemporaries will do likewise.

American Medical Education Foundation, 1953

Maine physicians will herewith be acquainted briefly with the status and needs of the National Foundation and advised of the fruits of their own apparent interest in the direction of national medical education.

At the Annual Meeting of the State Chairmen in Chicago, Dr. Donald Anderson told the group that the joint efforts of the National Fund for Medical Education and the American Medical Education Foundation had raised more than $3,300,000.00 up to that time contributing about equally to the total. He also stated that the National Fund hoped to raise three and one-half million dollars in 1953.

In a recent letter to S. Sloan Colt, president of the National Fund for Medical Education, by way of comment on the 1952 annual report, President Eisenhower stated that the financial crisis facing the seventy-nine medical schools "poses a dangerous threat to our national welfare." He further stated that "excessive reliance on government violates the essential principles of our free enterprise system."

The record shows that from January, 1951, to January, 1953, the National Fund had distributed $2,819,901.15 to the approved medical schools; that a treasury balance in the special grant fund as of December 31, 1952, was $260,000. The Foundation had received and transferred to the National Fund $1,417,752.31 during the past two years and the Foundation treasury balance amounted to $234,795.15; also that of the $3,314,696.30 raised by both organizations for medical education, the medical profession had contributed approximately one-half.

During the first quarter of 1953, 8,600 contributors throughout the nation donated in excess of $702,000 toward the *goal of two million dollars* set for itself by the Foundation. The interest evident in the National Fund is evinced by gifts from private corporations such as Abbott Laboratories, General Mills, Eli Lilly, Charles Pfizer and Company, Time Inc., and The Upjohn Company who have contributed $10,000 to $100,000 each. Sixty-six other corporations gave $1,000 to $10,000 each.

At the annual meeting of State Secretaries it was emphasized that the Foundation does not desire to detract interest from the individual physician in his own Medical Alumni Association. It must be reiterated, however, that funds sent to the American Medical Foundation ear-marked for a particular school of medicine will be forwarded *one hundred percent* to the indicated school. A particular benefit is

derivative thereby since the physicians total contributions are largely augmented, an important factor in stimulating certain contingent gifts from corporate and industrial sources. These non-medical contributors like to be shown that doctors believe in their own Medicine!

A look at the contributions made by our own physicians here in Maine is interesting though rather disheartening. In passing, however, let this opportunity not pass to thank the handful who are awake to the opportunity and privilege, even the obligation to support American Medicine. Such example will no doubt spur fellow practitioners to pull their own weight in the boat! In this state forty physicians gave a total contribution in 1952 of $1,480. in contrast to three who gave about $350 in 1951. But the number who gave to their own Medical Alumni Associations in 1952 amounted to 165. The total amount of this contribution cannot be supplied but beyond doubt it would greatly surpass the total given to the American Medical Education Foundation.

There are well in excess of seven hundred physicians in our own State of Maine. In 1952, a grand total of 205 are on record as making financial support to national medical education. With closer appreciation of the need and more vociferous calls for coöperation, one may confidently expect a loosening of the medical purse strings by about five hundred more physicians of the Pine Tree State.

The Cause is Worthy, The Need is Real, The Doctor is Privileged to Give.

C. Harold Jameson, M. D.

ANNUAL MEETING OF THE COUNCIL OF THE MAINE MEDICAL ASSOCIATION

Dr. Mahaney
Council Chairman, 1953-1954

The main purpose in presenting this brief report of the annual meeting of the Council, which was held at the Eastland Hotel in Portland on Monday, June 22, 1953, is to acquaint you with your Council members for 1953-1954, who are as follows:

Dr. Norman H. Nickerson, Greenville, President.
Dr. Robert W. Belknap, Damariscotta, President-elect.
Dr. William F. Mahaney, Saco, Council Chairman and Councilor, 1st District.
Dr. Currier C. Weymouth, Farmington, Councilor, 2nd District.
Dr. Francis A. Winchenbach, Bath, Councilor, 3rd District.
Dr. Maurice E. Lord, Skowhegan, Councilor, 4th District.
Dr. Karl V. Larson, East Machias, Councilor, 5th District.
Dr. Armand Albert, Van Buren, Councilor, 6th District.
Dr. Martyn A. Vickers, Bangor, Delegate to the American Medical Association.
Dr. Eugene H. Drake, Portland, Immediate Past President.

All of the above members were present with the exception of Dr. Lord. Dr. C. Harold Jameson of Rockland, who has long been a member of the Council and is this year replaced by Dr. Drake, was also present, as was your Executive Secretary, Mr. Payson, and Secretary-Treasurer, Mrs. Kennard.

Election of Council Chairman:

The first order of business at this meeting was the election of a Council Chairman, and, as you will note above, Dr. Mahaney was elected to this office.

1953 Fall Clinical Session:

It was voted to accept an invitation from the Penobscot County Medical Society to hold the Fall Clinical Session in Bangor, the dates to be set by the Penobscot County Committee on Arrangements.

A notice containing information relative to this

meeting will be sent to each member of the Association in the near future. The program will be published in a later issue of the JOURNAL and a copy sent to Association members prior to the session.

1954 Annual Session:

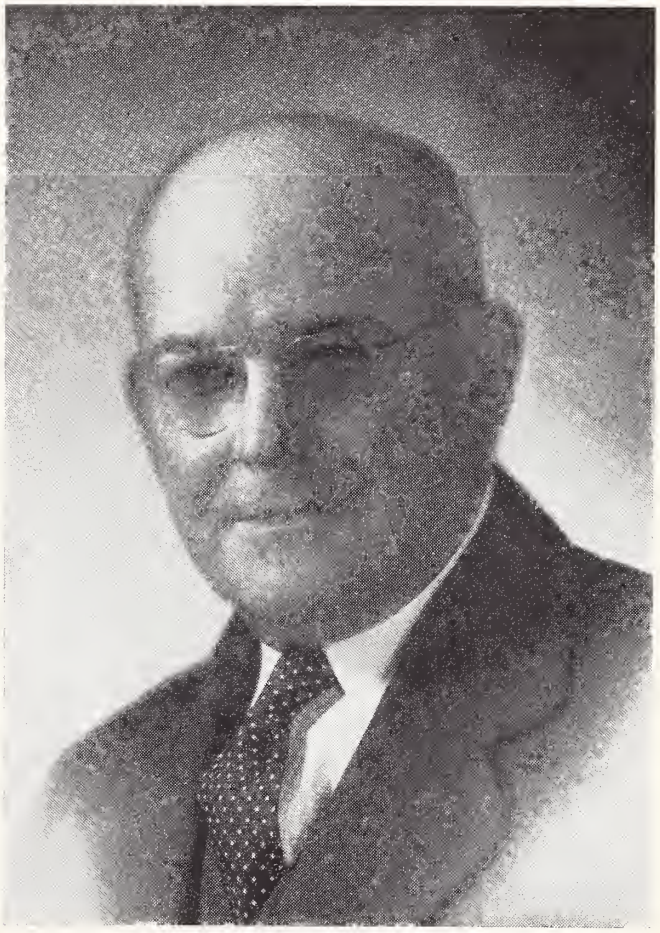
We know that many of you will be pleased to learn that it was voted to hold the 1954 Annual Session at the Samoset in Rockland on Sunday, Monday and Tuesday, June 20, 21 and 22, 1954. (Dr. Ralph C. Stuart of Guilford, Chairman of the Scientific Committee, will be in charge of the program for this session.)

Summer Meeting of the Council:

It was voted to hold the summer meeting of the Council at Squaw Mountain Inn in Greenville on Sunday, August 30th.

The meeting, which was called to order by Dr. Belknap at 10.40 A. M., adjourned at 11.10 o'clock.

DR. WINCHENBACH
Councilor, 3rd District, 1953-1956



DR. LORD
Councilor, 4th District, 1953-1956

SAMA Girds For Big Year: There's a big year ahead for the Student American Medical Association. . . . Two resolutions passed at the June national convention indicate its expanding field of interest not only in the medical student but also in the intern and pre-medical student. To acquaint members with the various features of the National Intern Matching Plan, Inc., one resolution called for a special committee to prepare a report on the Plan for publication in the SAMA Journal. Another resolution encourages local chapters to set up high school advisory committees to counsel pre-medical students.

Three new chapters were admitted to the SAMA roster, bringing the total number of chapters to 63. The new groups are located at the University of Utah, Woman's Medical College of Pennsylvania and State University of New York College of Medicine at New York City, Brooklyn.

Officers installed for the ensuing year include — John H. Caskey, Baylor University College of Medicine, president; David J. LaFond, Marquette University School of Medicine, vice-president; Russell F. Staudacher, Chicago, executive secretary; and Daniel Heffernan, Wayne University College of Medicine, treasurer.

WHAT THE A. M. A. DOES FOR ME*

Martyn A. Vickers, M. D., Bangor, Maine**

The State of Maine is a long way from Chicago, where some 900 permanent employees carry on the year-round activities of the American Medical Association in the nine-floor headquarters building. Our state also is quite distant from most of the cities where the A. M. A. usually holds its annual and clinical sessions.

Because of this geographical situation, comparatively few Maine physicians have been able to visit the Chicago headquarters or to attend the A. M. A. meetings every year. As a result, far too many of our doctors do not realize the variety and extent of activities aimed to achieve the national association's objective: "to promote the science and art of medicine and the betterment of public health."

Therefore, I should like to outline briefly some of the major services which the A. M. A. provides in return for the Annual membership dues of only $25. In practical terms, what does the A. M. A. do for me—and what can it do for any other member who chooses to take advantage of its many services?

In the first place, the major share of my dues — $15 — covers a year's subscription to the *Journal* of the A. M. A., the best all-round medical publication in the world, or to an alternate choice of one of the nine specialty journals published by the association. Weekly reading of the *Journal* will keep me abreast of the latest scientific advances and also the newest developments in the social, economic, legislative and organizational aspects of medicine.

If I want to find out about a new drug, a special-purpose food or a medical device, I can write respectively to the Council on Pharmacy and Chemistry, the Council on Foods and Nutrition or the Council on Physical Medicine and Rehabilitation. These councils, aided by the A. M. A. Chemical, Microbiologic and Physical Laboratories and by expert consultants in the field, are constantly studying the evaluating products involved in the everyday practice of medicine.

If I want to do some special reading or research on a particular subject, the A. M. A. library will assemble and lend to me a package of reference materials.

If I need some information on quacks, cultists, nostrums or medical fads, I can call upon the resources of the Bureau of Investigation.

If I desire up-to-date facts about medical schools or intern and resident training programs, I can get it from the Council on Medical Education and Hospitals. Incidentally, as a result of this Council's work over the past four or five decades, you and I no longer have to compete with the graduates of diploma mills and sub-standard medical schools.

If I'm interested in obtaining exhibits or films to show at medical or public meetings, I can get help from the Bureau of Exhibits and its Committee on Medical Motion Pictures.

If I want information on health protection for industrial workers or for people who live on farms and in rural areas, I can turn to the Council on Industrial Health or the Council on Rural Health.

If I need counsel or facts relating to the many social and economic phases of medicine, the A. M. A. has various departments which will serve me. For example:

The Council on Medical Service gathers information on voluntary health insurance plans, emergency call systems, grievance committees, community health councils, physician placement programs and other means of increasing the availability of good medical care.

The Bureau of Medical Economic Research collects and analyzes statistics on the costs of medical care, the distribution of physicians, medical service areas, physicians' incomes and similar subjects.

The Bureau of Health Education publishes *Today's Health,* a monthly magazine for lay readers, and provides pamphlets, radio and television scripts and other materials to help doctors in their public health education efforts.

The Department of Public Relations makes known the policies and activities of the A. M. A. via news stories, magazine articles, special radio and television programs, speech materials, pamphlets and a wide variety of media aimed to reach both doctors and the public.

The Washington Office reports to the medical profession on national legislation affecting public health or medicine, and it supplies the Members of Congress with pertinent information on medical subjects.

I have sketched in very brief outline only a portion of the many services which are available from more than thirty councils, bureaus and departments of the A. M. A. They all add up to the fact that regardless of what the question or problem may be, the A. M. A. is ready and willing to help you and me if we only will avail ourselves of its many facilities.

Continued on page 256

* Presented to members of the Maine Medical Association House of Delegates, June, 1953.

** Member of the House of Delegates of the American Medical Association.

1952-1953 COMMITTEE REPORTS*

Health Insurance Committee

WILLIAM F. MAHANEY, *Chairman*

As Chairman of the Health Insurance Committee I would like to first thank the Committee members for their attendance at the three meetings which were held during the past year and for their deep interest in the problem of health insurance.

During this past year there has been considerable business connected with the Blue Shield Plan but none with the private insurance carriers. The Committee was able to have the Blue Shield raise the fees for the Nose and Throat work and these fees are to be in effect for one year to see what effect they have financially upon the Blue Shield.

The Committee also recommended that the anesthesia fees be increased but Mr. Webb of the Blue Shield vetoed this proposition on the basis that the Blue Shield could not afford it. The Committee, however, hopes to keep this subject alive and trust that Mr. Webb will be able to see that these fees are too low and to raise them so they will be commensurate with the work that the anesthesiologist does.

The Blue Shield recently put out a new list of doctors in which the medical doctors are listed on the same sheet of paper as the osteopaths, although they were in separate columns. I wrote Mr. Webb and explained to him that it was not ethical for the medical doctors to be included on the same sheet of paper and that it was distasteful to the medical doctors to be classed along with the osteopaths. I would like to quote Mr. Webb's letter in reply:—

"Until recently, we have been issuing two lists of participating physicians, the lists being substantially identical in format. One has been an alphabetical listing of medical doctors participating in our Blue Shield Plan and the other has been an alphabetical listing of participating osteopathic physicians. With rare exceptions the subscriber requires both lists, as he has the right to know who are the participating physicians. Whether he gets these lists as two sheets of paper in the same envelope, or whether he gets them printed on a single sheet of paper on which the two schools of practice are clearly differentiated would seem to me to involve an inconsequential difference in medical ethics.

"The single list has several advantages to us; it saves space by making it unnecessary to repeat information relating to the relationship of participating physicians of the Blue Shield Plan and notice that the list is subject to change without notice to the subscriber. It saves printing costs, is more convenient for us to handle and reduces mailing weight, which is an important factor because the lists normally accompany other material enclosed in the same envelope. In listing the participating physicians on a single printed sheet we very carefully avoided classifying the medical men with the osteopaths. They are no more classified together in this instance than they are classified together in the yellow pages of the telephone directory. We would prefer to continue printing two clearly distinguishable lists on the same sheet of paper, but it is nothing that we are going to wrangle over with the profession. If you insist on having the lists cut apart, even though they are distributed together, we will return to that arrangement."

I have advised Mr. Webb that his letter will be taken up at the meeting of the Insurance Committee.

The Health Insurance Committee has been very active during this past year and will probably become more active in future years. Progress has been hampered because of the inability of the laymen who are in charge of the insurance plans being unable to understand medical ethics and also unable to understand doctors' methods of practice.

As a good example most of the laymen associated with these insurance companies are unable to understand why it is better for a doctor to be on a fee basis than on a salary basis such as the anesthesiologists.

Committee on Committees

STEPHEN A. COBB, M. D., *Chairman*

At the meeting of the Council in August, 1952, it was voted to appoint a Committee "to define the duties of the Standing Committees." That Committee consists of the following:—

Stephen A Cobb, M. D., Chairman
Ralph A. Goodwin, M. D.
Eugene E. O'Donnell, M. D.
Ralph C. Stuart, M. D.
Forrest B. Ames, M. D.

The Association has two major systems of Committees:—Standing Committees, whose duties and functions are continuing and permanent; Special Committees, (Chapter III, House of Delegates, Duties, Section 2—"The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.") and many of the latter created in previous years for special occasions have continued from year to year without functions and frequently without meetings.

This Committee recommends that further study be made of these Special Committees, and if the special reason for their creation is ended that they be disbanded, or if that reason seems a continuing one that the Committee be made a Standing Committee.

** In this report your Committee recommends the addition of two Committees as Standing Committees, viz:—

Health Insurance Committee
Committee on Credentials

Obviously, the Health Insurance Committee is a continuing Committee and should not be carried as a Special. We have recommended that it be a Standing Committee.

The Credentials Committee should be a continuing Committee to relieve the Secretary-Treasurer in case of any questions on eligibility to attend and vote in any Session.

This Committee believes that there should be a turnover in membership of some Committees. For that reason, we have recommended that on the Committees on Legislation, Public Relations, Rural Health, Health Insurance, and Credentials the terms of two members expire each year, except the members of Committees which have odd numbers the term of only one member expire the third year.

The Committees on Medical Education and Hospitals, and that on Graduate Education, are not always too busy or too active. The two subjects seem to be allied and your Committee recommends that their function be combined and defined as set forth in the report and that the new Committee be a Standing Committee.

* Presented at the Annual Meeting of the M. M. A. House of Delegates, June, 1953.

** The following Committee recommendations were approved by the M. M. A. House of Delegates, June 21, 1953.

COUNTY SOCIETIES

Androscoggin
President, William Spear, M. D., Lisbon Falls
Secretary, Norman O. Gauvreau, M. D., Lewiston

Aroostook
President, Clement L. Donahue, M. D., Caribou
Secretary, Clyde I. Swett, M. D., Island Falls

Cumberland
President, Carl E. Dunham, M. D., Portland
Secretary, Ralf S. Martin, M. D., Portland

Franklin
President, Harry Brinkman, M. D., Farmington
Secretary, Paul E. Floyd, M. D., Farmington

Hancock
President, Herbert T. Wilbur, Jr., M. D., Southwest Harbor
Secretary, Arthur M. Joost, Jr., M. D., Bucksport

Kennebec
President, Kurt A. Sommerfeld, M. D., Gardiner
Secretary, Arch H. Morrell, M. D., Augusta

Knox
President, Oram R. Lawry, Jr., M. D., Rockland
Secretary, Barbara G. Luce, M. D., Rockland

Lincoln-Sagadahoc
President, Samuel L. Belknap, M. D., Damariscotta
Secretary, John P. Goodrich, M. D., Boothbay Harbor

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President, David S. Broughton, M. D., Rumford
Secretary, Dexter E. Elsemore, M. D., Dixfield

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COUNTY SOCIETY NOTES

Coming Meeting

Piscataquis County Medical Society

The Piscataquis County Medical Society is holding its annual meeting for the surrounding county societies at Kineo, on Moosehead Lake, on Saturday, August 29, 1953.

Boats will leave Rockwood Wharf for a sail under Kineo Cliff at 11.30 A. M. Dinner will be at 12.30 P. M. (If late for the 11.30 boat—you can leave the wharf at 12.00 and arrive in time for dinner.)

George H. Howard, M. D.,
Secretary,
Piscataquis County Medical Society.

NEWS AND NOTES

International Symposium on Cardiovascular Regulations

International Symposium on Cardiovascular Regulations sponsored by the University of Vermont, College of Medicine and the New Hampshire and Vermont Heart Associations, Burlington, Vermont, Sept. 8, 9, 10, 1953.

Papers will be presented by several speakers from abroad, such as:

G. V. Anrep (Cairo, Egypt)
E. Braun-Menendez (Buenos Aires, Argentina)
H. R. Croxatto (Santiago, Chile)
O. Edholm (London, England)
U. S. v. Euler (Stockholm, Sweden)
W. Feldberg (London, England)
H. Hensel (Heidelberg, Germany)

The detailed program will be announced at a later date.

Registration fee, $2.00.

For more information write to W. Raab, M. D., University of Vermont, College of Medicine, Burlington, Vermont.

Cardiac Seminars

Cardiac Seminars arranged by the Division of Experimental Medicine of the University of Vermont, College of Medicine in Burlington, Vermont, and sponsored by the Vermont Heart Association, on September 10, 11, 12, 1953.

I. (a) The Normal Electrocardiogram;
(b) Electrocardiographic Diagnosis of Myocardial Infarction

presented by
E. Lepeschkin (University of Vermont, Burlington)
Guest Speakers
C. E. Kossmann (New York University, New York)
H. B. Levine (Harvard University, Boston)
12 hours; fee $10.00

II. Hormonal and Neurogenic Factors in Cardiac Pathology and Therapy

presented by
W. Raab (University of Vermont, Burlington)
Guest Speaker
I. H. Page (Cleveland Clinic, Cleveland, Ohio)
6 hours; fee $5.00

For further information write to W. Raab, M. D., or E. Lepeschkin, M. D., Burlington, Vt.

Joint Meeting New Hampshire and Vermont Medical Societies October 4, 5, 6, 1953

The 140th Annual Meeting of the Vermont State Medical Society will be held in conjunction with the 162nd Annual Meeting of the New Hampshire Society at the Equinox House, Manchester, Vermont, October 4, 5 and 6, 1953.

Continued on page 254

Clinical Results* with Banthine® Bromide

(Brand of Methantheline Bromide)

22 Published Reports Covering Treatment of 1443 Peptic Ulcer Patients with Banthine

Comprising the reports published in the literature to date which give specific facts and figures of the results of treatment

AUTHORS	No. of Patients	Chronic, Resistant to Other Therapy	TYPES OF ULCERS				RELIEF OF SYMPTOMS (Chiefly Pain)				Surgery or Complications[1]	Side Effects Requiring Discontinuance of Drug[2]	EVIDENCE OF HEALING			
			Duodenal	Jejunal	Stomal	Gastric	Good	Fair	Poor	No Report			Complete	Moderate	None	No Report
Grimson, Lyons, Reeves	100	100	93	7			80	11	4		5		47		19	29
Friedman	15	15	14			1	5		4	6[3]			2			13
Bechgaard, Nielsen, Bang, Gruelund, Tobiassen	26	26	21			5	16	4	6				8	6	12	
McHardy, Browne, Edwards, Marek, Ward	162		162				136	12	11		3	1	14	9	7	129
Segal, Friedman, Watson	34	34	34[4]				14	13			7	2	5		8	14
Brown, Collins	117	99	117				97	7	8		5	8	55	9	8	40
Asher	77		65		7	5	52	9	16			16		9	21	47
Rodriguez de la Vega, Reyes Diaz	5	4	5				4		1					3	2	
Winkelstein	116	116	102	8		6	102		14				53		18	45
Hall, Hornisher, Weeks	18	18	18				11		1	6[5]			18			
Maier, Meili	38	38	24			14[6]	27	7	4[7]				10	2	5	21
Meyer, Jarman	25	18	25				21		4							25
Poth, Fromm	37	37	37				33	3	1				33	3	1	
Plummer, Burke, Williams	41	41	41				36		5				38		3	
McDonough, O'Neil	104	100	104				63	10	31			11	4		11	89
Broders	60	60	58		1	1	35	19	6				10	1	49[8]	
Legerton, Texter, Ruffin	11		11				11									11
Holoubek, Holoubek, Langford	76	69	76				35	27	10		4	10	26		10	36
Ogborn	42		39	2		1	42[9]									42
Shaiken	48	48	48				33	10	3		2		33	10	3	
Johnston	145	145	145				143		2			2	143		2	
Rossett, Knox, Stephenson	146		141			5	146					4[10]	53			93
TOTALS	1443	968	1380	17	8	38	1142	132	131	12	26	54	552	52	179	634
PERCENTAGES		67.8	95.6	1.2	0.6	2.6	81.3	9.4	9.3			3.7	70.5	6.6	22.9	

1. Not included in tabulations.
2. Included in "Relief of Symptoms" as "Poor" and in "Evidence of Healing" as "None."
3. Four had no symptoms when Banthine therapy was begun.
4. Of which seven were penetrative lesions and five partially obstructive.
5. No symptoms were present in four.
6. Two with symptoms only; no demonstrable ulcer.
7. Three were psychopathic patients and one had a ventricular ulcer of the lesser curvature.
8. Roentgen findings after treatment period of two weeks; forty-seven had duodenal deformity.
9. All returned to work within a week.
10. In these four, after relief of symptoms, Banthine was discontinued because of urinary retention.

During the past three years, more than 250 references to Banthine therapy in peptic ulcer and other parasympathotonic conditions have appeared in medical literature. Of these reports, 22 have presented specific facts and figures on the results of treatment in a total of 1,443 peptic ulcer patients, 67.8 per cent of whom were reported as chronic or resistant to other therapy. These results are tabulated above and show:

"Good" relief of symptoms was obtained in 81.3 per cent of the 1,405 patients on whom reports were available.

"Complete" evidence of healing was obtained in 70.5 per cent of the 783 patients on whom reports were available.

In all but 9.3 per cent, relief of pain was "good" or "fair." In all but 22.9 per cent, evidence of healing was "complete" or "moderate."

During treatment, 26 patients required surgery or developed complications other than ulcer which required discontinuance of the drug before results could be evaluated.

Of the remaining 1,417 patients, only 3.7 per cent experienced side effects sufficiently annoying to require discontinuance of the drug.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

*Volume containing complete references, with abstracts of 39 additional reports, will be furnished on request by

G. D. Searle & Co.
P. O. Box 5110, Chicago 80, Illinois

News and Notes—Continued from page 252

Bowdoin Alumni Luncheon

A Luncheon Meeting of the Alumni of Bowdoin Medical School was held at the Eastland Hotel, Tuesday noon, June 23rd, during the Centennial Session of the Maine Medical Association.

Forty-two doctors who graduated from this school and two guests were present.

Dr. Walter E. Tobie of Portland, formerly Professor of Anatomy at the Bowdoin Medical School, spoke. Dr. Willard H. Bunker and Dr. William Holt also made brief remarks.

Dr. Adam P. Leighton of Portland, presided at the Post Prandial Exercises.

Following is a list of doctors attending the luncheon. From Out of State: Olin S. Pettingill, West Medford, Mass.; Frank W. Stevenson, St. John, N. B.; Charles F. Deering, Danvers, Mass.; A. K. Baldwin, Long Beach, Calif.; Francis J. King, Woonsocket, R. I.; W. I. Small, Rutland, Vt.; William E. Hill, Naugatuck, Conn. From Maine: John A. Greene, Rumford; Joseph R. Ridlon, Gorham; Frederick P. Chenery, Monmouth; Albert W. Plummer, Lisbon Falls; Norman H. Nickerson, Greenville; Albert M. Carde, Milo; Delbert M. Stewart, So. Paris; Allan Woodcock, Bangor; Manning C. Moulton, Bangor; Arthur L. Gould, Freeport; Karl B. Sturgis, Intervale; Maurice A. Priest, Augusta; Leonard H. Ford, Bangor; Willard H. Bunker, York Harbor; Owen B. Head, Sanford; Clarence F. Kendall, Biddeford; D. F. D. Russell, Leeds; Fred J. Pritham, Greenville Jct.; Charles N. Stanhope, Dover-Foxcroft; Harry D. McNeil, Bangor; and from Portland, Isaac M. Webber, Eugene H. Drake, Albert W. Moulton, Walter E. Tobie, Francis J. Welch, Harold V. Bickmore, DeForest Weeks, Bryant E. Moulton, George O. Cummings, Sr., Henry P. Johnson, Adam P. Leighton, M. Carroll Webber, C. Eugene Fogg, William Holt, Harry L. Curtis. Guests: Frank R. Ober, Boston, Mass., and Robert W. Belknap, Damariscotta.

American College of Chest Physicians to Sponsor Postgraduate Courses on Diseases of the Chest

The Council on Postgraduate Medical Education of the American College of Chest Physicians, in coöperation with the respective state chapters of the College as well as the staffs and faculties of the local hospitals and medical schools, will sponsor the Eighth Annual Postgraduate Course on Diseases of the Chest at the Hotel Knickerbocker, Chicago, Illinois, September 28-October 2, 1953, and the Sixth Annual Postgraduate Course on Diseases of the Chest to be held at the Hotel New Yorker, New York City, November 2-6, 1953.

These annual postgraduate courses endeavor to bring physicians up to date on recent advancements in the management and treatment of heart and lung disease. Tuition for each course is $75.

Further information may be secured by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Fellowships for Basic Research in Arthritis

The Arthritis and Rheumatism Foundation is offering the following research fellowships in the basic sciences related to arthritis:

1. Predoctoral fellowships ranging from $1,500 to $3,000 per annum, depending on the family responsibilities of the fellow, tenable for 1 year with prospect of renewal.
2. Postdoctoral fellowships ranging from $3,000 to $6,000 per annum, depending on family responsibilities, tenable for 1 year with prospect of renewal.
3. Senior fellowships for experienced investigation will carry an award of $6,000 to $7,500 per annum and are tenable for 5 years.

The deadline for applications is November 1, 1953. Applications will be reviewed and awards made by February 15, 1954.

For information and application forms address the Medical Director, The Arthritis and Rheumatism Foundation, 23 West 45th Street, New York 36, N. Y.

Announcement of Van Meter Prize Award

The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held in Boston, Massachusetts, April 29, 30 and May 1, 1954, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English, and a typewritten double spaced copy in duplicate sent to the Corresponding Secretary, Dr. John C. McClintock, 149½ Washington Avenue, Albany 10, New York, not later than January 15, 1954. The committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for the presentation of the Prize Award Essay by the author, if it is possible for him to attend. The essay will be published in the annual proceedings of the Association.

John C. McClintock, M. D.,
Corresponding Secretary.

NECROLOGY

Charles Carr Morrison, Jr., M. D.
1893 - 1953

Charles Carr Morrison, Jr., M. D., of Bar Harbor died April 13, 1953, in a Bangor hospital after a short illness.

He was born in Bar Harbor on July 5, 1893, the son of Dr. Charles Carr Morrison and Ida Conners Morrison. He was graduated from the Bar Harbor schools and Tufts College and received his medical degree from Harvard Medical School in 1918. He interned at Boston City Hospital and has practiced in Bar Harbor since then.

Dr. Morrison was for many years Hancock County Medical Examiner. Besides his large practice in Bar Harbor, he at one time maintained an office and home in Palm Beach, Florida.

Dr. Morrison was a member and at one time president of the Hancock County Medical Society, a member of the Maine Medical Association, and a fellow of the American Medical Association and of the American College of Surgeons.

He is survived by his wife, five daughters, and nine grandchildren.

TUBERCULOSIS ABSTRACTS*

Issued by the National Tuberculosis Association

Energy Costs of Various Physical Activities in Relation to Pulmonary Tuberculosis

By Edward E. Gordon, M. D., Archives of Physical Medicine, April, 1952.

In the management of pulmonary tuberculosis, the question often arises as to how much physical activity a given patient may assume and yet safely avoid stress with possible reactivation of his disease. Precise definition of the limit between tolerance and stress is not possible, for neither are the relevant factors fully understood nor are measurements feasible. However, the intensity of physiological work, that is, the energy expended in the performance of a task, can be obtained. While this method does not reveal the working capacity of an individual, it has the following advantages: (1) the degree of cardiovascular response roughly parallels the intensity of work in terms of energy expenditure; (2) respiratory responses are easily determined with the measurement of work intensity. Thus, a rough index of the magnitude of cardio-respiratory stress imposed upon a patient is afforded by a determination of the work intensity of a given task. The intensity of energy expenditure is measured in terms of oxygen consumption per minute. On this basis energy costs of some common activities were determined to provide the clinician with a knowledge of their general orders of magnitude. This knowledge in conjunction with the clinical data could serve as a guide in judging the wisdom of allowing a patient to engage in an activity when apparently indicated on clinical grounds.

As a preliminary study to ascertain whether different individuals would display equivalent results in performing a given task, mainly healthy subjects were tested. Nine normal female and four normal male subjects were used; as the investigation progressed, four male patients on ambulatory status were included in the study. These exhibited no impairment of pulmonary function and presented the usual criteria of apparently arrested disease for four to six months. Such subjects probably afforded values for working energy cost comparable to those for healthy subjects, since they were on an ambulatory status and in a better state of physical fitness than clinically active patients. No comparison was made between healthy subjects and patients, as the latter comprised too small a group.

Fifty-three experiments were carried out with the normal group and five with patients. Tasks selected were those applicable to patients either on a modified bed-rest program or on limited ambulation. Since the rate of work influences the energy expenditure, it was controlled whenever possible; otherwise the optimum tempo for the individual was allowed.

This work is concerned only with the intensity of the rates of energy cost of various activities and not with the total daily energy expenditure. It is believed that the factor of intensity is as important as the total sum, since a short burst of relatively high energy cost may be injurious to the tuberculous patient by exceeding a critical level above which physiological stress may cause pathologic changes. For example, a physician rightly hesitates to allow showering for patients still in a dubious clinical status; the four or five minutes of activity is insignificant in the total daily expenditure, yet the high intensity of physiological stress engendered even briefly casts doubt on the wisdom of allowing it. A knowledge of the intensity levels of energy costs may contribute to the final judgment regarding the prescription of certain activities for a patient. A compilation of energy costs

ENERGY COST OF SELF-CARE AND WORK ACTIVITIES

Activities	*Per cent rise above the basic metabolic rate*	*Source*
Sitting	17-25	Harvard Fatigue Laboratory, Orr
Standing relaxed	38	Harvard Fatigue Laboratory
Conversation	38	Harvard Fatigue Laboratory
Dressing and undressing	43-53	Sherman, Brody, et al.
Personal toilet	38	Harvard Fatigue Laboratory
Showering	242-377	Author
Eating a meal	38	Harvard Fatigue Laboratory
Writing a letter	75	Harvard Fatigue Laboratory
Writing a letter	20	Author, Kestner, et al.
Strolling	75	Harvard Fatigue Laboratory
Walking slowly (2.6 m.p.h.)	160	Sherman
Using wheel chair (1.2 m.p.h.)	138	Author
Walking moderately fast (3.75 m.p.h.)	290	Sherman
Walking downstairs	320	Sherman
Walking upstairs	1330	Sherman
Hand sewing	40	Sherman
Knitting (23 stitches/min., sweater)	50	Sherman
Making link belt (reclining):		
stiff leather (4 links/3 min.)	39	Author
soft leather (4 links/3 min.)	27	Author
Leather tooling (reclining)	24	Author
Leather punching and lacing (reclining)	22	Author
Chip carving (reclining)	45	Author
Copper tooling (sitting)	41	Author
Weaving—hand loom (2 operations/min.)	50	Author
Weaving—floor loom (2 operations/min.)	99	Author
Chisel carving (sitting)	122	Author
Tailoring	75-105	Sherman, Farkas, et al.
Typing	20-50	Kestner, et al.
Typing rapidly	82	Sherman
Bookbinding, light	56-92	Kestner, et al.
Bookbinding, partly heavy	105-120	Sherman, Kestner, et al.
Wood work on sanding lathe	119	Author

is presented, therefore, in which appear observations from these experiments and those reported in the literature. In the table are grouped values for activities of daily living and for work therapy.

The levels of energy cost assigned to the activities studied may err on the low side. A majority of the subjects were normal, healthy individuals, who were trained in the tasks performed. This might have operated to give results lower than those attained by patients newly assigned to physical activity. However, since work is contraindicated for acutely ill patients, and the tasks utilized can be quickly learned, it is probable that the patients would closely approximate the values obtained in this study.

(The printing of Tuberculosis Abstracts is made possible by the coöperation of your local tuberculosis and health association.)

* From Vol. XXVI, August, 1953, No. 8.

What the A. M. A. Does For Me—Continued from page 250

Above all, we should remember that in the broad arena of public affairs and national problems the A. M. A., acting always in accord with the "grass roots" policy directed by its House of Delegates, is our champion and our voice — fighting our battles for us.

As Dr. Carl C. Nohe of Akron, Ohio, Editor of the Summit County Medical Society Bulletin, said in the first 1953 issue of that journal:

"The A. M. A. is the head and heart of medical organization, recognized and respected by our well wishers, and feared and abused by our enemies. It will be strong only so long as we at the 'grass roots' starting in County Medical Societies give it our full support."

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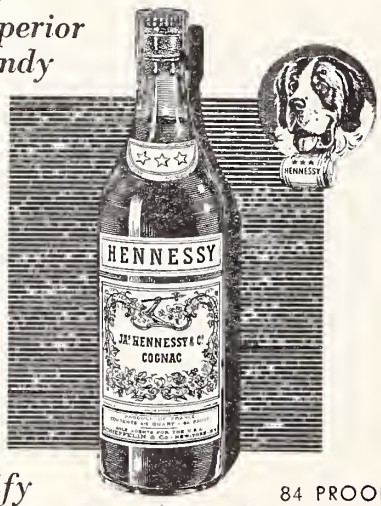

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The Journal of the Maine Medical Association

Volume Forty-Four Portland, Maine, September, 1953 No. 9

HYSTERECTOMY: TOTAL VERSUS SUBTOTAL

O. F. Pomerleau, M. D., Surgical Staff, Sisters' Hospital, Waterville, Maine

I have been a convert to total hysterectomy for about three years. It seems strange that previously I did only subtotal hysterectomies. But even today, I find that subtotal hysterectomies are being performed very often, and I have had some lively discussions on the subject in the past three years and some surgeons are not convinced yet. As will be brought out later, they seem to fear more complications because they believe the technique more difficult.

About three years ago, a patient around 55 was in my office with a history of vaginal bleeding in the past six months. She could not understand it as she stated that she had a hysterectomy twenty years before. Vaginal examination revealed a subtotal hysterectomy had been performed and that a bleeding, malignant growth was present on the cervix. A biopsy was performed and a diagnosis of carcinoma was confirmed. Radium was applied and she had a series of X-ray treatments. Bleeding stopped but the patient died in about a year from metastasis to the lungs. I know that if this woman had had a total hysterectomy twenty years before, she never would have developed cancer of the cervix. At that time, I made up my mind to do a total hysterectomy whenever possible. In the past three years, I have done over two dozen total hysterectomies with no mortality. On two occasions I did subtotal hysterectomies because of technical difficulties caused by previous operations, but I feel now that a total should have been done.

The first total hysterectomy was performed by Lewis Stinson, Professor of Surgery, at Cornell Medical College in 1889. At the same time, he announced locating the uterine artery as it enters the uterus and isolating it before ligating. At this meeting, he advocated total hysterectomy to his colleagues as the better procedure in doing hysterectomy. In Germany and France, total hysterectomy has been the operation of choice for years, and they call a subtotal, "The American Operation."

The greatest reason for doing a total hysterectomy is to eradicate the possibility of cancer developing in the stump of the cervix. There are hundreds of cases reported of cancer of the cervix developing following a subtotal hysterectomy. The incidence is believed to be 77%. It is also stated by Pelham and Amreich that cancer is 27 times more frequent in the cervical stump than in women who have not had a subtotal hysterectomy. The reason for this is that in doing a subtotal hysterectomy we are leaving behind devitalized tissues which tend to become infected, and more liable to become cancerous. In leaving the cervix in, the patient will develop more leukorrhea than those who have had total hysterectomy because of degenerative stages of mucous gland of the cervix. This also stimulates the tissue cells of the cervix and predisposes it to cancer.

R. F. Chaffin, a Professor of gynecology for thirty years, does not believe in doing a total hysterectomy simply to prevent cancer of the cervix and that indications for such are almost nil. He reports in

Modern Medicine, February 15, 1952, that in the past twenty-five years, he has only performed two or three total hysterectomies. He claims that he has never seen a cervical cancer in his own cases, and he explains this absence by the technique which he follows. He does a subtotal hysterectomy and a total endocervicoectomy. He introduces a water-cooled Percy cautery with the tapering point red-hot at the bases into the external os before laparotomy. After the corpus is removed, he again introduces the cautery from above and the cauterization is repeated. He claims that this method destroys all glandular epithelium of the cervical canal together with the regenerative base. He believes that by this method, no cancer can occur on the cervix which is the primary reason for doing a total hysterectomy. He gives as advantages for doing a subtotal as follows:

1. Easier technique.
2. Better anatomical and physical results.
3. Safer.
4. Better support of cervix and vault.
5. Less morbidity.
6. Less infection.

And finally by doing his special cauterization, he claims to eliminate the possibility of cancer of the stump and so accomplishes the same end as a total hysterectomy. He states he has never seen cancer of the stump of the cervix develop when the Percy cautery is used following his technique, and that if cancer has developed in the stump, it is because cauterization was not employed. Although the statement of Dr. Chaffin sounds convincing, I believe that when the cervix is out there can be no question of cancer developing in it. I have not found the technique of total hysterectomy difficult and I have not encountered any complications or morbidity. On one occasion, I had catheters in the ureters. I wanted to see how close I was to them and discovered that I had plenty of room, the ureters being about one-fourth of an inch away all the time. I follow the Richardson method of doing a total hysterectomy and by this method one is always brushing away the ureters. It takes a little more time than a subtotal but it has its reward in knowing that the patient will not die of cancer of the cervix.

Some of the usual objections given to total hysterectomies are:

1. Higher mortality rate. Tyrone and Weed in Modern Medicine, October 15, 1952, report 1457 total hysterectomies, with a mortality of 0.13% and 170 subtotal hysterectomies with a mortality rate of 0.59%. H. S. Irons also reported in Modern Medicine, February 15, 1952, less mortality in total hysterectomies than in subtotal.
2. Danger of hemorrhage.
3. Danger of injuries to bladder and ureter.
4. Infection from the vagina.
5. More difficult technique.
6. More morbidity. Wm. W. Curtiss in Modern Medicine, February 15, 1952, states that he performed total hysterectomies for two reasons:—to rid the patient of cervicitis and prevent cancer of the cervical stump. The rate of pulmonary embolism is believed to be much higher in subtotal hysterectomies because of low grade infection in the cervical stump.

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H. S. Irons, W. W. Curtiss, R. C. Chaffin—Modern Medicine, Feb. 15, 1952.
C. Tyrone and J. Weed — Modern Medicine, October 15, 1952.

Plan Now For St. Louis!

Singing the "old St. Louie blues" again . . . physicians and AMA staff members are completing arrangements for the seventh annual Clinical Session, December 1-4, in St. Louis. This year's program has been designed to give the general practitioner an opportunity to see and hear the latest developments in medicine. A brief glance at the scientific program indicates that some outstanding features have been lined up to cover the newest techniques in medical practice. Such topics as chest injuries, compression fractures of the vertebra, chronic pancreatitis, weed poisoning and chronic arthritis—drugs and vaccine therapy, will be presented. Special features include — *fracture* demonstrations; *problems of delivery,* manikin demonstrations by leading obstetricians; *traffic accidents,* an exhibit symposium combining the experiences of physicians, the National Safety Council and police departments, and stressing the responsibility of the physician in the prevention of such accidents, and *diabetes,* which includes exhibits and question-and-answer conferences in an adjoining room.

The Jefferson Hotel has been selected as the headquarters for House of Delegates sessions and Reference Committee meetings. All other features—Scientific Exhibit, lectures, motion pictures, color television, Technical Exhibit — will be presented at the Kiel Auditorium. More than 80 exhibits, with continuous demonstrations and plenty of time for personal consultation, will make up the Scientific Exhibit. The Technical Exhibit will feature approximately 150 displays covering all types of office and medical practice needs.

Plan now, doctor, to attend this worthwhile medical meeting!

URINARY CALCULUS

W. A. Greenlaw, M. D., Surgical Staff, Sisters' Hospital, Waterville, Maine

Urinary lithiasis constitutes one of the major problems of urology. Most recent research on the part of numerous investigators along the lines of chemistry, especially colloidal-crystalloid chemistry, bacteriology, and body metabolism, has resulted in greatly augmenting knowledge on this phase of the subject, much of which, however, must still be regarded as theoretical.

The cause of urinary calculi is still uncertain. However, the effects of stone present in the urinary tract have been only too well demonstrated. Unless calculi are passed or properly removed, the frequent complications of obstruction and infection eventually result in irreparable destruction of renal tissue.

The majority of urinary calculi originate in the kidney. Many of them remain attached to a papilla or in a calyx or in the renal pelvis where they may gradually increase in size so that their passage is thereby prohibited. Retained there, the stone presents a problem of renal destruction. Frequently, however, a small stone passes into the ureter and then becomes lodged creating back pressure resulting in hydronephrosis and its sequelae or it may be passed into the bladder or urethra. Stones also may form, primarily, in the bladder and under conditions of stasis may originate in the ureter or the urethra, but for the most part calculi originate in the kidney itself and most calculi found in the lower portions of the urinary tract have descended from the kidney.

Calculi of the urinary tract occur in all ages but most commonly between the ages of 25-40 years. In general, males appear to be more susceptible to renal stones than females. Both kidneys are about equally affected.

The mechanisms of formation of renal stones and the factors which initiate these mechanisms are unknown. Prominent among the many etiological theories that have been advanced are: colloidal-crystalloid imbalance, stasis, infection, Vitaman A deficiency, endocrine disturbances, heredity, racial predisposition, and climate. No single factor is responsible for the formation of renal calculi, but several concurrent factors are probably always required.

The theory of colloid-crystalloid imbalance, propounded many years ago, has again been stressed by research in recent years. Urine is a supersaturated solution and the crystalloids are held in solution because of the presence of protective colloids but when there is an increase or diminution in the colloids or crystalloids, the result is an imbalance and a precipitation of one or the other, into the organization of stone.

Keyser produced urinary stones by causing an excessive secretion of crystals in the urine and the protective colloids could no longer hold the crystalloid in solution. The latter being insoluble in urine resulted in calculus formation.

Infection, an error in metabolism, or anything which disturbs a crystalloid-colloid equilibrium of the urine will result in precipitation of the urinary salts. This has brought out the notable work of Butt, Hanser, Seibter and others on the use of hyaluronidase. Their theory is that hyaluronate is released at the site of injection of the hyaluronidase which in turn increases the protective urinary colloids, thus removing turbidity and sediment from the urine.

The idea that stasis in the urinary tract predisposes to calculus formation is an old one. Stasis associated with infection is undoubtedly responsible in severe cases for the formation of calculi; however, there is little evidence that stasis, alone, initiates the stone formation process.

The role of infection, alone, in the production of renal stone is uncertain. However, there can be no doubt that it is an important etiological factor in a certain number of cases. There are, however, many cases of renal stone without infection. The majority of renal infections are due to colon bacillus but a large number of these are not associated with stone. Randall, however, contends that infections play an important role in the production of renal stone by causing minor papillary lesions or injuries to the lining of the calyces. These irritated areas constitute focal points where crystallization of urinary salts are initiated.

Metabolic and endocrine disturbances are important factors in stone formations and improved living conditions, especially in the quantity, quality and variety of food have resulted in gradual but definite decrease in the number of cases of urinary stones. Endocrine disturbances, such as hyperparathyroidism, are notable for the formation of calcium phosphate stones. A few years ago estrogenic substances and aluminum hydroxide preparations to alter the absorption, mobilization, and excretion of calcium and phosphorus were brought into use, thereby diminishing the calcium and phosphate ions in the urine.

McCarrison and Ranganathan concluded that production of stones was produced by a deficiency of phosphorus relative to the amount of calcium present and an insufficiency of Vitamin A in the diet. Immobilization may operate in two ways in production of stones: first, by impairing urinary drainage and secondly, by changes in the calcium metabolism. Jones and Roberts in 1934, showed that immobilization causes local decalcification of bones and depletion of

the calcium store of the whole skeleton. It appears likely that in these cases nephrolithiasis is the result of skeletal decalcification and increased calcium concentration in the urine, comparable to stone formation in hyperparathyroidism.

Flocks and his co-workers concluded that the fundamental pathogenesis of renal stones is due to those factors which so change the nature of renal substance as to favor precipitation of the crystalloids within it and those factors which favor the precipitation of crystalloids in the urinary passageway.

In the past decade and a half, another etiological factor has been brought to the forelight by the crystallization of sulphonimide drugs in the urine. Crystals of these drugs are excreted in the urine and may coalesce in the tubules of the kidney, the renal pelvis, the ureter, or in the bladder with calculus formation.

The main types of calculi found are made up of urates, oxalates, phosphates, carbonates cystin. Pure stones are rare and calcium oxalate is the predominant constituent of renal calculi in America. The constituent next in frequency is phosphate combined with ammonium, calcium, and magnesium.

Symptoms relative to renal calculi are local irritation and associated infection. Renal calculi may attain great size and cause irreparable damage to the kidney because of obstruction and back pressure.

Improved diagnostic techniques have resulted in more frequent diagnosis of symptomless stones while there is still a chance of saving the kidney. If the obstructing stone is retained undiagnosed, infection inevitably sets in and ultimately results in destruction of the kidney. The most constant complaints are pain, hematuria, and pus in the urine. Most patients give a history of pain on the affected side which may be an occasional twinge of pain or a dull ache or may be a severe pain, known as renal colic. The pain depends on the severity of the urinary obstruction present and the location of the obstruction. A calyx obstructed by a calculus in its infundibulum portion will give rise to dull pain in the loin but seldom sharp colic.

If the calculus lodges in the uretero-pelvic junction, completely obstructing the renal pelvis, renal colic will ensue which will not be relieved until the stone becomes dislodged. The pain is usually located in the back or in the costo-vertebral angle on the affected side. There is frequently pain and tenderness along the course of the ureter. Hematuria usually accompanies an attack of renal colic. Hematuria may be only microscopically detectable or there may be a diffusely mixed urine and blood giving it a smoky appearance. The total urinary output is often decreased. Occasionally, the calculus may be so lodged as to produce complete anuria. Anuria may follow manipulation of the kidney containing a calculus. Anuria may be also due to the intense pain which accompanies the obstruction and on relief of the pain by use of narcotic, there may be a copious flow of urine constituting a true polyuria. True renal colic may last only a few minutes but as a rule persists for several hours. The duration is regulated by the size and surface consistency of the stone as well as by its progress or lack of progress in its descent along the urinary tract.

Presumptive evidence for the diagnosis of renal calculi is obtained from the preliminary steps of history, general physical examination, and examination of urine, especially microscopically. The history of dull aching pain in the kidney area or attacks of typical renal colic with hematuria, pyuria, or both, or the finding of pus, blood, and crystals in the urine are strongly suggestive of stone in the upper urinary tract. These symptoms and signs, however, are also found in many other conditions. The diagnosis cannot be based solely upon the symptoms and findings of the urinalysis. Pathological conditions of the kidney must not alone be ruled out but the pain must be differentiated from that due to the disease of gallbladder, appendix, or other causes of diseases of the abdomen, chest, vascular and neurological systems. The main factor in the diagnosis of renal stone must be placed upon roentgenography. Plain X-ray examination of the abdomen is indicated whenever clinical history suggests the possibility of stone. In a properly prepared patient, renal stones are said to be demonstrated by plain X-ray in a very high percentage of the patients, because calcium oxalate and calcium phosphate are the predominant constituents of renal stones and they cast very good shadows. Pure urates and uric acid stones cast no shadows but are rare calculi of the urinary tract. Such stones soon become mixed with calcium salts after which they are identifiable by X-rays. Further studies, preferably by means of cystoscopy and retrograde pyelography, will be required.

Complications of obstruction and infections which are problems of most cases of renal calculi cannot, however, be studied solely by plain roentgenograms. Cystoscopy and retrograde pyelogram will be necessary to ascertain how far the presence of stone has injured the function of the organ, to determine whether or not hydronephrosis is present, and to secure a specimen of urine from each kidney to be examined for the presence or absence of infection, for the determination of the PH and the type of crystals and sediments present. These are all very necessary procedures for positive diagnosis and the collection of data which will determine the method of treatment. As a rule, intravenous pyelography is less satisfactory than the retrograde method for the study of renal stones and co-existing pathology. Therefore, a bilateral ascending pyelogram should be obtained whenever possible.

The treatment of renal stone consists of two problems: One, removal of existing stone; two, preven-

tion of recurrence of stone formation. The so-called dietary management of stone is indicated chiefly in the prevention of recurrence. Exceptional instances in which the calculus is very small, non-obstructing and shows roentgenographic evidence of being passable, may indicate dietary management.

Small, smooth, and round stones located in the calyces especially if they occur in upper and middle calyces, may be left alone with the hope that they will be passed spontaneously. Dilatation of the ureters and renal pelvic lavage is useful in expulsion of collections of pus and even gravel, thereby, increasing the possibility of such stones being passed. Medium-sized stones and large stones that are causing symptoms, should be removed by appropriate operation whenever possible. If they are permitted to remain, serious damage to the kidney is almost certain to ensue, making nephrectomy inevitable. The types of operation are: Nephrotomy, Pyelotomy, Heminephrectomy, Calyceal Resection, and Pelvic lavage with so-called solution G.

The treatment of ureteral stones resolves itself into expectant treatment, instrumental manipulation, or surgical treatment.

Expectant treatment is justified in being carried out when the patient experiences his first attack of renal colic or when it is known that he has successfully passed ureteral stones if it can be demonstrated by functional tests and pyelography that the kidney is not sufficiently suffering from the effects of the back pressure. It is a prevailing opinion that the stones smaller than 1 cm. can frequently be passed spontaneously. When the size and location of the stone, and the condition of the kidneys and the patient justify it, every effort should be made to remove the calculus through a cystoscope. The principles employed are: dilatation, lubrication, anesthetization of the ureter and dislodgement, grasping or crushing of the calculus. The surgical treatment of the ureteral calculi consists of: removal of the stone, ureterolithotomy, and treatment of the renal complications arising from long standing ureteral obstruction. Ureterolithotomy should be performed when the impacted calculus shows no tendency to the descend after expective or manipulative treatment. Surgery is usually the only resort in cases where the stone has lodged in one spot for a long time so that the periureteral thickening and partial stricture have already occurred.

The following cases, seen at Sisters' Hospital between 1947 and 1953 exemplify the foregoing types of treatment.

W. H., 65-year-old white American male was seen January 14, 1952, with the chief complaint of severe pain in the left costo-vertebral angle region with radiation over the left lower quadrant of the abdomen and over the anterior thigh and left testicle of about three hours' duration. The pain had been progressively worse; he had frequency of urination, but no other urinary complaints. He had a past history of asthma of ten years; coronary insufficiency and chronic passive conjestion of five years. Physical examination revealed a marked tenderness over the left costo-vertebral angle region, and mild tenderness over the left lower quadrant of the abdomen. The urine contained 5-8 red blood cells per high powered field. No albumen or sugar was noted. He was treated with atropine and demerol and his pain subsided. Intravenous pyelograms were within normal limits. The P.S.P. was 50% in one hour and 70% in two hours. His N.P.N. was 30. On January 16, 1952, he passed a calcium phosphate calculus measuring about ¼ cm. in diameter. He was again seen on May 29th, 1952, with similar symptoms and he was treated with atropine and demerol. In twenty-four hours he again passed a small stone. At that time estrogen and aluminum hydroxide therapy was instituted. On the 10th of September, 1952, he passed another small calcium phosphate stone. He was last evaluated on June 10th, 1953, at that time he was asymptomatic and his urine was clear. His P.S.P. was 60% in one hour. Stones passed are in photograph labeled case #1—Fig. I.

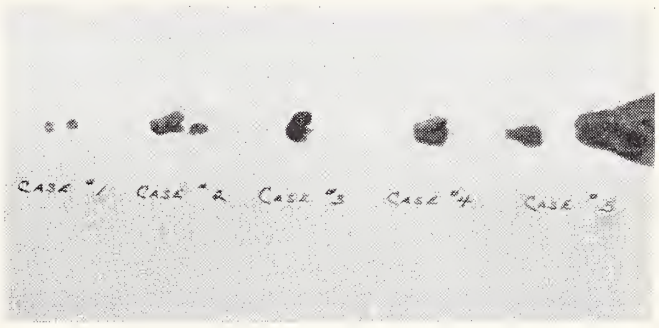

FIGURE I

T. B., a 58-year-old white French male, was seen on March 8, 1947, with a history of sudden onset of pain in the left lower quadrant of the abdomen with radiation to the end of his penis. His pain had progressed for six hours when first seen. He had a one year history of nocturia, burning and frequency. Physical examination revealed tenderness over the entire left lower abdomen. Urine contained "rare red blood cells" per high powered field. Intravenous pyelograms demonstrated no calculi. His P.S.P. was 50% in one hour and 60% in two hours. His renal colic continued intermittently, until March 15, 1947. At that time cystoscopy was carried out. A #5 ureteral catheter met with obstruction at about 10 cm., but was finally passed to the left kidney pelvis. This was followed by a #8, and #10, ureteral catheters. The #10 catheter was left in place for twenty-four hours. During the night of the 16th of March, 1947, after withdrawal of the ureteral catheter he

passed two small calculi. He has been followed for five years without recurrence. Intravenous pyelograms on February, 1952, before an inguinal hernia repair, were within normal limits. His calculi are demonstrated in photograph labeled case #2—Fig. I.

L. G., a 62-year-old white American male, was seen on May 4th, 1953, with a history of one week of intermittent pain of left lower quadrant of the abdomen without radiation which was relieved by lying down and aspirin. However, on the day of admission he had severe left lower quadrant abdominal pain of five hours, relieved only by narcotics. Physical examination revealed tenderness over the entire left lower quadrant of the abdomen. The prostate was three times its normal size. His P.S.P. was 30% in one hour and 50% in two hours. There were occasional red blood cells in the urine. Intravenous pyelograms demonstrated no stone and good excretion of the dye, bilaterally. Narcotics resulted in relief for twenty-four hours, but his severe pain recurred. On May 29, 1953, cystoscopy revealed intravesical lateral lobe prostatic enlargement. A No. 5 and a No. 8 ureteral catheters were passed. These were withdrawn and a No. 5 loop catheter was passed to the left pelvis, looped and withdrawn. A small stone was withdrawn with it into the bladder. This was then extracted with a grasping forcep. He was seen June 11, 1953, and was asymptomatic, his urine was clear. This calculus is demonstrated in photograph as case #3—Fig. I.

E. G., is a 69-year-old white American male, who was seen for the first time on September 5th, 1949, with typical renal colic on the right. Twenty-four hours before admission he had chills, and a temperature of 103 F. His urine was grossly bloody. Roentgenograms revealed a calculus of the middle third of the right ureter. On the 10th of September, 1949, a right ureterolithotomy was carried out. The ureter was not sutured. His postoperative course was uneventful and the fistula closed in fourteen days. During the following year the ureter was dilated to a No. 10 ureteral catheter every three months. He was seen again May 2, 1953, complaining of inability to void. His prostate was small and nontender. Catheterization yielded 1000 c.c. of bloody fluid. On May 2, 1953, cystoscopy revealed a bladder calculus measuring about one cm. in diameter. With a Lowsley-Kirwin grasping forcep this was broken and extracted. His postoperative course was uneventful. In June, 1953, intravenous pyelograms were within normal limits and his urine was clear. He is asymptomatic, his N.P.N. is 25, and P.S.P. is 50% in one hour. Stone demonstrated as case #4—Fig. I—in photograph is from ureter. His film of the first admission is labeled case #4—Fig. II.

B. D., a 48-year-old white American female was admitted to the Sisters' Hospital on the 7th of November, 1951, with a ten-year history of having had

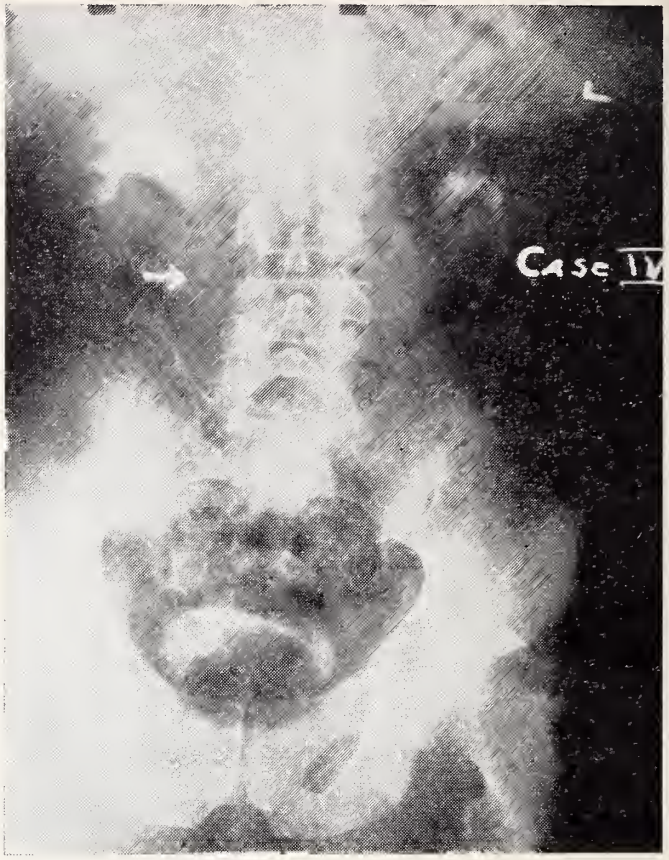

FIGURE II

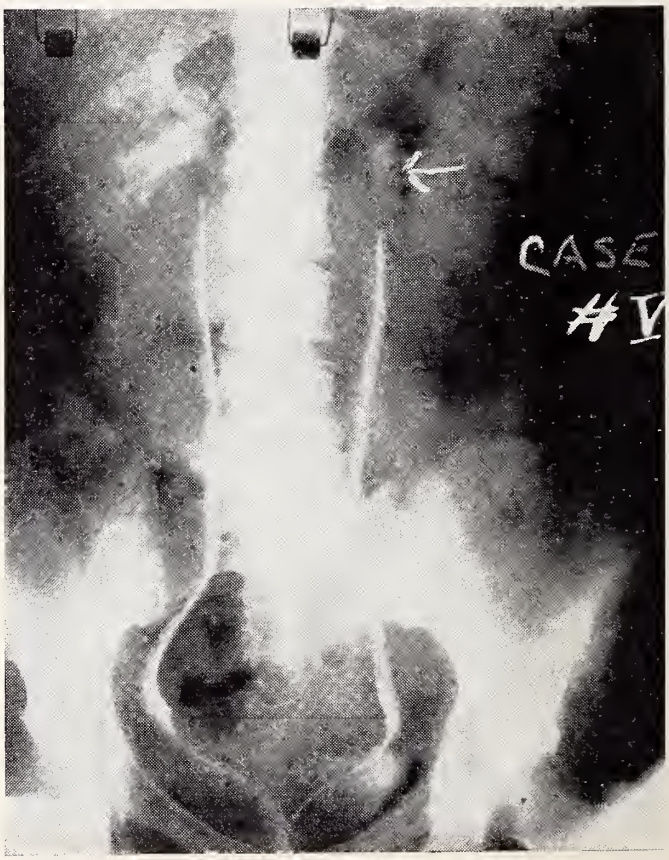

FIGURE III

recurrent episodes of left kidney pain with radiation over the left lower quadrant of the abdomen. Fifteen days before admission she had a similar episode which was relieved only by narcotics. She had no pyuria or hematuria. She had no other urinary symptoms. She also had a twenty-year history of gallbladder disease. Physical examination revealed marked tenderness in the left kidney region. A catheterized specimen revealed a specific gravity of 1.007; white and red blood cells—12 per high powered field. There was no albumen or sugar. Her blood counts were within normal limits. N.P.N. was 35. A flat plate of the abdomen revealed a calculus in the region of the left renal pelvis. Retrograde pyelogram confirmed this finding. No urine or P.S.P. dye could be obtained from this kidney. On the 16th of November, 1951, a left pyelotomy was carried out with the removal of the stone of the left renal pelvis, and another stone was removed from the left inferior calyx. There was urinary drainage from the urinary fistula until November 28, 1951. She left the hospital December 2, 1951. She has been examined every three months since that time and has had no recurrence. Calculi are demonstrated in photograph labeled case #5—Fig. I. Film is demonstrated in case #5—Fig. III. Shadow over the right kidney region proved to be a gall stone.

Summary

A discussion of etiology, pathology and treatment of urolithiasis is given. Five cases are presented exemplifying the types of treatment carried out at the Sisters' Hospital, Waterville, Maine—from 1947 to 1953.

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MANAGING A CASE OF COMPOUND NASAL FRACTURE

James E. Poulin, M. D., Sisters' Hospital, Waterville, Maine

The frequency of fractures and injury to the nose is very common in this day of high speed transportation, and competitive athletics; football, boxing, and baseball all contribute. But automobile accidents cause by far the greatest number of nasal fractures, and the most severe cases. This case of compound nasal fracture which I will report is a result of an automobile accident. In reporting this case, I shall discuss the general procedures carried out in the treatment of all nasal fractures.

In order to prevent distressing deformities as well as difficulty in nasal breathing, most certain to follow in many of these injuries, it is necessary that prompt reduction of the nasal fracture be carried out, and maintenance of the nasal bones be kept in their proper relations by packing and splinting. I feel that packing and splints are necessary in each case of nasal fracture, otherwise the fragmented portions of the nasal bones will not remain in their proper places. The time for the reduction of the nasal fracture depends on the nature of each individual case. If a nasal fracture alone is involved, the reduction should be carried out immediately providing the swelling is not too extensive, for delayed treatment only makes reduction more difficult. However, if there are any signs or suggestions of head injury, such as loss of consciousness at the time of accident, or the possibility of a fractured skull, then the treatment of the nasal fracture must be deferred. If the patient has other injuries, which are far more serious than his nasal fracture, then the treatment of the nose itself, must likewise be postponed until such time as the patient's general condition will permit reduction of the nasal fracture.

Detection of a nasal fracture may be made quite difficult at times due to the accompanied swelling. It is, however, on the whole rather easily accomplished. A careful comparison of the relationship of the midline of the forehead to the tip of the nose, and the middle of the chin is often sufficient, to convince one of existence of fracture. Palpation enables one to ascertain whether the break involves one or both nasal bones. By careful digital manipulation any irregularities in the contour of the nasal arch or displacement can be recognized. An X-ray picture frequently clears up the matter, but it is not by any means necessary or essential in making the diagnosis. There are unfortunately many people with ugly nasal deformities, resulting from nasal fractures, that were not properly cared for. This is most unfortunate, for a nasal fracture that is not correctly reduced will cause the patient undue suffering and social embarrassment for the remainder of his life.

The patient involved in this case is a sixteen-year-old boy who was injured in an automobile accident. The impact of the force of the accident apparently caused the boy to strike his nose on some portion of the automobile with a tremendous force from below

upwards, causing a very extensive compound nasal fracture. External compound nasal fractures are relatively rare. The more common type of compound nasal fracture is where the bone becomes compounded through the rupture of the internal wall of the nose. The examination of the nose revealed extensive trauma in that the entire nose was deflected from the midline to the right side. This blow was obviously directed from the side, and below, and it apparently completely fractured both nasal bones, severing their connections from the nasal bone above, and the nasal process of the superior maxilla below. The force of this blow was such that it caused the nose to lie almost over on the right cheek. Edges of the nasal bones were visible on the right side, extending through the skin, covering the dorsum of the nose. This created a compound fracture, which I have previously mentioned. The internal examination of the nose revealed the septum to be broken and displaced, with resulting obstruction of the nasal vestibule. The internal nares were filled with clotted blood, and breathing was completely occluded, as it almost always is in this type of case.

In addition to the above described deformity, there was a slight depression of the bony dorsum. X-ray studies of the nose and face were carried out—not that they were necessary to detect the nasal fracture, but to rule out the possibility of further fractures of the facial bones. The X-ray reports show that the nasal bones alone were fractured, and the maxilla and remaining facial bones were not involved. Since this examination took place about twenty-four hours following the accident, it was very easy to rule out the possibility of any intracranial involvement as sometimes is possible in these severe nasal injuries. This precaution is extremely necessary for it would be most unfortunate if attempts were made to reduce a nasal fracture under general anesthesia, when the patient had suffered an intracranial injury.

As the nose is extremely sensitive after such an injury, reduction is best carried out under general anesthesia, because, in my opinion, local anesthesia is not adequate to permit proper manipulation of the bones, and secondly it frequently adds to the already over-abundant edema. Thus, under general anesthesia a Davis mouth gag was introduced into the mouth, followed by a postnasal pack with a tape attached which extended out to the mouth to prevent blood from running down into the unconscious patient's pharynx.

The skin over the external nose was carefully washed with seventy percent alcohol. The nasal bone was now firmly grasped with an Adam's forcep, one blade was introduced into the vestibule of the nose, and the other blade, which was covered with rubber tubing, placed on the outside of the nose. The nasal bones were now twisted with sufficient force to assure complete demobilization. The same process was repeated with the nasal bone on the other side. Following this procedure the forcep with both blades bare, were introduced into the nostril, parallel and directly beneath the nasal bone, one blade on either side of the septum, so that by lifting and twisting movements the nasal bones were brought forward and upward into their proper relation with the frontal bone above the nasal process of the superior maxilla below. This manipulation served at the same time to bring the septum of the nose into proper alignment. As this procedure was being carried out gentle steady pressure was applied over the dorsum of the nose, where the compound bony fragments were exposed, and thus these were pushed back into their proper alignment. To retain the desired position and to secure satisfactory cosmetic results, the nasal vestibule was now packed on both sides with iodoform gauze tape about one-half inch wide. This packing served to prevent subsequent dislocation of the bones inward towards the nasal chamber. The external laceration along the dorsum of the nose was now sutured with a fine atraumatic needle, using #0000 black silk thread, which minimized the possibility of further scarring. A previously prepared copper splint was now applied to the dorsum of the nose after having dusted the area with sterile talcum powder. The splint itself was first lined with a single layer of surgeons' lint, with the fluffy side next to the skin. After placing the splint in proper position, it was held by an inch wide adhesive tape extending across the nose and face, from beneath one ear to the other. A small strip of adhesive tape was now placed from the forehead down to the lower end of the splint, reinforced by two cross strips at the forehead; at the upper and lower ends of the splint. This prevented any tendency of the splint to slide downward and cause undue pressure upon the tip of the nose. Great care was taken to see that the tape which was applied to the splint presented equal pressure on both sides throughout. The postnasal packing was removed, and all blood clots were removed from the postnasal space by means of suction. I might mention at this time, that the patient naturally received the usual dose of tetanus antitoxin, because of the compound nature of the fracture, and in addition to this, he was immediately placed upon adequate amount of penicillin, to prevent the possibility of any secondary infection.

The postoperative care in these patients is that of observation, and watchful waiting. The internal packing should not be removed before the fourth day. However, the tape from the tip of the nose should be removed, so that the tip of the nose can be inspected, to make certain that the patient is receiving proper circulation. The patient naturally is quite uncomfortable, because of the extensive nature of the packing, but he should be quite free of pain, and he can rapidly adapt himself to the uncomfortable pressure

produced by the packing. On the fourth day I usually remove the nasal packing from both sides and irrigate out the nasal chambers with normal saline. At this time the internal nose is inspected to make certain that the septum is straight, and that no bony fragments are out of line. After having done this, the nose is again lightly repacked with iodoform gauze, and the external splint is readjusted, making certain that it is in a straight line. A pencil dot on the adhesive tape on the midline of the forehead and a pencil dot on the adhesive tape covering the tip of the nose, helps keep this alignment correct. Four days later the internal packing is completely removed and it is not re-introduced. It is usually wise to remove the external splint at this time, to make certain that no erosion of the skin over the dorsum of the nose has occurred during the splinting. The sutures were removed at this time, in this particular case and all bony fragments were in their proper position. I usually keep this external metal splint in place for about two weeks, as it offers additional protection to the nose, and helps to keep the nasal bones in their proper position.

A copper splint must be made up for each individual case, and can be very easily prepared by the surgeon from a piece of thin gauge copper metal, which can easily be cut with tin shears. It is first wise to make a paper pattern, which fits the external nose, and from the paper pattern, the proper size splint can be cut and prepared. The splint itself can be easily rounded over the leg of a chair, so that it will fit over the dorsum of the nose. In all cases the copper splint should be lined in the inner surface, with surgeons' lint, to prevent undue pressure upon the skin along the dorsum of the nose. In my experience the vast majority of nasal fractures are best treated in this manner and require the need of an external splint as well as internal packing. There are too many people today walking about the streets with ugly nasal deformities, resulting from neglected nasal fractures. For the most part these individuals usually consult a physician, immediately after the accident, who, only too often applies a strip of adhesive tape across the nose and leaves the rest to nature. This is rather unfortunate, for a fractured nose which is not properly reduced and cared for will definitely lead to an ugly deformity, which is oftentimes very difficult to correct after the bones are permanently knitted.

OBSTETRIC CASE HISTORY

Charles R. Geer, M. D., Portland, Maine

This is the case report of Mrs. B. D., a 17-year-old white G-I, P-O.

This patient was first seen in my office during the third month of her pregnancy at which time the history revealed that her L. M. P. had occurred on December 16. Her periods had always been regular with a 28-day cycle and of four days' duration. There had been no subsequent spotting or bleeding and aside from the usual symptoms of pregnancy such as nausea, vomiting and soreness of her breasts, she had been asymptomatic.

Physical examination revealed a well developed, well nourished white female whose positive findings were confined to the pelvic examination. The uterus was enlarged to the size of a 3 months pregnancy, cervix softened and bluish on inspection. Both adenexae were negative. Pelvic measurements were as follows: IC-27 I.S.-23, E.C.-19. The sacral promontary could not be reached and the outlet seemed adequate by gross measurements with the clenched fist. The external measurements obviously indicated a contracted pelvis but the diagonal conjugate and outlet were satisfactory.

She was seen at monthly intervals for prenatal check-ups and seemed to be progressing normally until the beginning of the eighth month when her urine first revealed a small amount of albumin and there was a slight rise in her B.P. which had been running 110/120/70 and then 140/80. At the same time she also complained of some backache and when a specimen of urine was centrifuged and examined under the microscope it contained clumps of pus cells. In view of this she was given urinary antiseptics which controlled the infection but urine still showed slight traces of albumin. She was placed on a low salt diet, caloric restriction, rest and daily magnesium sulphate and followed closely by weekly and bi-weekly visits until it was evident that the albumin was increasing in spite of her restrictions and the B. P. was not dropping.

One week before term, when an examination revealed that the presenting part was partially engaged the B. P. was not responding and albumin was not improving, she was admitted to the hospital with the

* Presented at M. M. A. Centennial Session Clinic Series, Mercy Hospital, Portland, June, 1953.

plan of inducing labor before any more trouble arose. The admitting urine contained 200 mg. of albumin with some finely granular casts and B. P. was 145/80. However, there had been no complaint of headaches, dizzy spells or edema other than about the feet and ankles. Fundi showed no changes consistent with a Toxemia of Pregnancy. Thoms Plates were taken because of apparent contraction of the pelvis but although the measurements were borderline the radiologist felt that they were adequate for delivery.

Induction was started after patient received 2 c.c. of 50% magnesium sulphate I.M. She was given castor oil, a hot enema and quinine. When it became obvious that this wasn't going to produce the desired result, Pitocin was given every one-half hour in one minim doses up to a total of four. The latter stimulated definite Uterine contractions which although mild at first gradually became stronger during the night until finally she required the usual premedication of barbiturates followed by Demerol and Scopolomin. Frequent check-ups showed some progress being made with dilatation, from a thick closed cervix up to 1½ fingers dilatation and increasing bloody mucus show. The presenting part (the vertex) descended from a high to about mid-pelvis. However, after about 12 hours, when further progress ceased and it was becoming evident that her urinary output was not satisfactory even in the face of supplemental fluids by I.V. infusion, she was seen in consultation by Dr. Lorimer.

It was decided that because of the borderline measurements of the pelvis both by physical examination and by X-ray and cessation of progress during apparent active labor, a Ceasarian Section was indicated but because of progressive oliguria she would be a better risk if further attempt was made to increase her output and improve her general status. Because her uterine contractions were becoming desultory in character, sedation with barbiturates and morphine were administered, whereupon all labor ceased and patient had a good rest. In the meantime a repeat catheter specimen of urine revealed only 50 mg. of albumin. Her B. P. was remaining constant at 132-134/80. A B U N was 15 mgs. and the CO^2 combining power 44.6 vol. %.

Intervenous infusions were continued as well as fluids by mouth. The catheter was left in place so that an accurate measurement of her output could be obtained.

However, instead of improving, her condition deteriorated with decreasing output in the next 24 hours to 250 c.c. and with apparent increasing restlessness, nausea and vomiting and edema about the face. In spite of this her B. P. never rose above 145/100.

Faced with this dilemma further delay was decided against and preparations made for surgery, actually about 60 hours from the time of admission. Our troubles were far from over at this time, however. A spinal anesthesia was administered without difficulty but as soon as the patient was turned on her back she began to complain of a "funny feeling" in her head and that she couldn't breathe. Shortly thereafter she became pulseless. Her B. P. was unobtainable and she stopped breathing entirely. Artificial respiration was started immediately by means of positive pressure through the bag, circulatory stimulants were given and attempts were made to pool her blood by elevation of the extremities. In about 8 to 10 minutes voluntary respiration began but the B. P. was unobtainable and her pulse was weak and thready. At about this time we were joined by Dr. Lincoln, the anesthetist from the Maine General Hospital, who advised that we proceed with the C. S. in spite of the poor condition of the patient and that once the baby was out her condition would improve.

Consequently, a low transverse incision was made, the baby was extracted without difficulty and cried immediately. The patient's subsequent operative course was marked by steady improvement.

On completion of surgery B. P. 140/80, P. 80. On return to the floor she began to put out urine immediately and within 12 hours output exceeded 1000 c.c.

Her postoperative course was complicated by a temperature which proved to be due to a left Parametritis but this responded satisfactorily to Penicillin-Streptomycin therapy.

FALL CLINICAL SESSION, BANGOR, MAINE

OCTOBER 25 and 26, 1953

PROGRAM ON PAGE 271

ENDOMETRIOSIS IN PREGNANCY — CASE REPORT*

E. Allan McLean, M. D., Portland, Maine**

This particular subject had brought forth no interest in me prior to February, 1952. I had passed through several years of private practice with the rather set feeling that pregnancy certainly exerted a temporizing cure upon the activity of ectopic endometrial tissue. However, on February 10, 1952, at 12 noon, I received a call from the husband of a 23-year-old primigravida, due date March 5th, that his wife had had sudden, severe abdominal pain at 11.30 A. M. and was now semi-conscious. An immediate visit to the home revealed a blanched woman with marked dyspnea, pulse 66, blood pressure 96/40, rigid, board-like abdomen with no evidence of external bleeding. It was impossible to make out fetal parts or hear fetal heart. In my opinion she had a concealed hemorrhage from abruptio placenta or a ruptured uterus. Hospital and ambulance were called and within one hour the peritoneum was opened. A tremendous volume of blood, 1,500 c.c., both chocolate and fresh, broke out under pressure. A low transverse cervical incision in uterus was elected after quick examination revealed no break in uterine continuity. A normal living female infant of 5 lbs., 5½ ounces, was evacuated who fortunately cried at once. Following the removal of intact membranes and placenta revealing no premature separation, it was possible to explore adequately and ascertain the cause of this intra-abdominal hemorrhage. A huge 20 x 28 cm. left ovarian endometrioma was found lying in the cul de sac, shaped like a huge blood sausage from which was flowing fresh blood as well as some additional chocolate material. This cystic mass was removed and an endometrioma, 9 x 5 cm., was excised from the right ovary. The patient received one 500 c.c. whole blood transfusion during the operation and happily made an uneventful recovery. She was urgently advised to nurse.

In passing, I must comment that she was discharged to her home the seventh post-operative day which was the day of the famous blizzard which marooned hundreds of cars on the Maine Turnpike. I tremble to think of what the results might have been had nature delayed a week in this patient's case.

The pathological specimen was reported and I quote Dr. Joseph Porter's report. "A somewhat flattened cystic structure insofar as it can be reconstructed, there were two large cysts in this tissue, one is thin-walled and contains blood clot. The other has a somewhat thicker wall into which there is considerable old hemorrhage, as shown by the chocolate brownish color which is still adherent to the tissue and seen in the wall. There are other smaller cysts also in the specimen which are quite similar to those previously described. The smaller section from right ovary revealed same characteristics. Microscopic: These sections of ovary include the wall of a cyst, showing evidences of old hemorrhage, and more recent hemorrhage; there is a well-defined decidual reaction lining this cyst, and there are also foci of decidual cells on the surface of the ovary, where there are also smaller hemorrhages. Impression — Endometriosis of Ovary Showing Decidual Reaction."

Ones natural question would be about this patient's pre-conception and antenatal history. Strangely, each phase is completely void of symptoms or signs relating in any manner to this condition. Her menses were totally normal. She had been examined about two months prior to conception at which time an acid cervix was determined and following the use of alkaline douches, she conceived readily. No dysmenorrhea, dyspareunia, or palpable adnexal masses were noted.

When consulted at post-partum check-up as to future pregnancies, I recommended that she consider supplementing her family at the earliest practical time. She re-appeared about September 1st having had only one period, on July 8th, since her operation. A gravid fundus was evident; no other pathology noted. The condition of her pelvis at the forth-coming section held my interest to say the least. The section was performed on April 9th and a normal 6 lb. 12 ounce boy was delivered. The area of the former left ovary, posterior cul de sac, utero-sacral ligaments and right ovary revealed positively no evidence of endometriosis.

Following the episode of 1952, I naturally desired further knowledge of endometriosis in pregnancy. The files of Maine General Hospital and Mercy Hospital were bare of same. I found one case only reported in the literature by the Hopkins' group. A smaller left ovarian endometrioma had ruptured at 8¼ months portraying an acute abdomen of somewhat less shock than this case. Five-hundred c.c. of chocolate material found. On Laparotomy; no free bleeding, the cyst removed and the patient subsequently delivered per vagina four weeks later.

Finally after more than a year of continuous interest in the subject a clearer picture of what may have occurred has been published by Gardner, Green, and Ranney in the June issue of that excellent new *Jour-*

* Presented at M. M. A. Centennial Session Clinic Series, Mercy Hospital, Portland, June, 1953.

** Attending Obstetrician and Gynecologist, Maine General Hospital and Mercy Hospital.

nal of the American Academy of Obstetrics and Gynecology, entitled, "The Histogenesis of Endometriosis" from Northwestern and South Dakota Medical Schools.

Briefly there are three theories. 1. Sampson's well-known theory that endometrial tissue is transported from the uterus to its ectopic location. 2. That ectopic endometrial tissue develops in situ from local tissues. 3. Combinations of the transportation and/or development in situ theories. This is not the place, nor does time permit an exhaustive discussion of these theories. Suffice to state that once one admits metaplasia, anything can happen. The authors cite an example of metaplastic transformation of endosalpingeal mucosa to endometriosis.

Now to conclude why this patient developed endometriomata during pregnancy and the reported crisis. The response of ectopic-endometrium to ovarian hormones is usually, but certainly not always, similar to the response of intra uterine endometrium. From this premise it may be argued that these hormones occasionally influence the development of embryologically related cells outside the endometrium in such a manner that ectopic endometrium results. We are informed that one of the explanations for onset of labor is the dramatic lowering of estrogen titre. This is generally held to occur about the 8¼ month. Undoubtedly, the rarity of this situation can be explained on the basis that most ectopic-endometrium during pregnancy is derived from the so-called unresponsive basal layer.

In conclusion I would state that the factors which may stimulate the development of endometriosis are manifold; all are extremely difficult to prove.

The opportunities for further study in this field are unlimited. Just be alert to a sudden surgical type abdomen in the last trimester of your patient.

HOSPITAL STAFF MEETINGS

Open to the Profession

CITY	HOSPITAL	DATE
Augusta	Augusta General Hospital	1st Wednesday
Bangor	Eastern Maine General	2nd Tuesday
Bath	Bath Memorial Hospital	1st Tuesday
Belfast	Waldo County	2nd Friday
Biddeford	Webber Hospital Notre Dame Hospital	2nd Thursday 2nd Monday
Boothbay Harbor	St. Andrew's Hospital	4th Tuesday
Caribou	Cary Memorial	1st Wednesday
Damariscotta	Miles Memorial	2nd Thursday
Farmington	Franklin County Memorial	2nd Monday
Greenville	Charles Dean Hospital	2nd Wednesday
Hartland	Scott Webb Memorial Hospital	1st Wednesday
Lewiston	Central Maine General St. Mary's General	2nd Thursday 2nd Monday
Portland	Maine Eye and Ear Infirmary Maine General Mercy	1st Tuesday 2nd Friday 4th Thursday
Presque Isle	Presque Isle General	1st and 3rd Tuesdays
Rockland	Knox County General	1st Monday
Rumford	Rumford Community	4th Wednesday
Sanford	Goodall Memorial	2nd Tuesday
Waterville	Sisters Thayer	2nd Tuesday Every Thursday

The above list was compiled from a questionnaire sent out by the Maine Hospital Association. Additions or corrections will be made on notification to the Secretary, Maine Hospital Association, Thayer Hospital, Waterville.

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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Third District,	RALPH P. EARLE, M. D.,	Vinalhaven	Sixth District,	RICHARD C. WADSWORTH, M. D.,	Bangor

Maine Hospital Association

FREDERICK T. HILL, M. D., Waterville

PEARL R. FISHER, R. N., Waterville

EDITORIAL SECTION

A Good Report

A good many writers, lay and professional, have taken occasion to write articles for newspapers and magazines about the medical profession. Not all of them have handled their subjects in a tolerant or understanding spirit. It is refreshing and encouraging to read an article in the *New York Times* of recent date, written by Howard Rusk, M. D.

Dr. Rusk says, that "during the thirty-seven months of fighting in Korea our Army Medical Service has piled up a dramatic record of achievement." In support of this general statement the doctor quotes the following figures, "the fatality rate among our wounded reached a record of 2.3 per cent compared to 4.5 per cent in World War II; 8.1 per cent in World War I."

The complete record of the Army Medical Services in handling the difficult problems of the Korean campaigns will stand out brilliantly in the history of military medicine.

The occasional critics of medical practice in our civilian ranks would do well to look at the accomplishments of the profession in all its aspects and temper their remarks accordingly.

News From Washington

During the preconvention campaign of 1952 the Medical Profession felt confident that both candidates, the late Senator Taft and General Eisenhower, were opposed to any plan for the governmental control of the Practice of Medicine.

The re-organization of the departments of Health, Education and Welfare was accepted as a step in the direction toward the goal of a Department of Health. The recent announcement that Doctor Chester Scott Keefer of Boston, had been appointed as a special assistant to the new Secretary indicates an understanding by the administration that a well qualified practicing and teaching doctor is able to furnish valuable advice to the Department. We congratulate Dr. Keefer on this appointment and commend the administration for its excellent selection.

The Fall Clinical Session Program

This year the Fall Clinical Session is sponsored by the Penobscot County Medical Society and will be held in Bangor on Sunday and Monday, October 25 and 26. The program, which is published in this issue of the JOURNAL, is excellent and we feel that the clinical sessions are of value to every member and are comparable to those in larger medical centers. We also feel that this chance to meet with your colleagues, between annual sessions, is well worth the small amount of time involved.

Space does not permit complete coverage of the program, which has been arranged by Dr. Richard C. Wadsworth of Bangor, Chairman of the Committee on Arrangements, and members of his committee, but we are going to give you a brief "rundown" of its contents.

Dr. Sara M. Jordan, Chief of Gastroenterolgy Section, Lahey Clinic, Boston, will be the guest speaker at the opening session at the Bangor House, Sunday evening, October 25, at 6.30 P. M. This will be a dinner meeting for physicians and their wives and for this occasion, Dr. Jordan has chosen as her subject, "Digestion, Diet and Doctors."

On Monday, October 26, from 9.00 A. M. to 4.30 P. M., with time out for lunch, there will be a clinical program at the Eastern Maine General Hospital, conducted by members of the Penobscot County Society. For details we refer you to the program.

The dinner meeting Monday evening will be stag and your speaker will be Dr. Edward Blaine Duncan Neuhauser, Roentgenologist, Infants and Childrens Hospitals, Boston. His subject will be "Pediatric Roentgenology in General Practice."

The Woman's Auxiliary to the Maine Medical Association will meet at this same time and their program is also published in this issue of the JOURNAL. Mrs. Richard T. Munce of Bangor, is Chairman of their Committee on Arrangements.

In the near future you will receive a copy of the program and a card to be filled in and returned to Dr. Wadsworth so that he will know how many plan to attend the various sessions. Why not have a "small conference" with your auxiliary member right now and make plans to attend this session. We are hoping for the largest attendance on record.

Tips For Pr-Wise Physicians

From the human to the business side of medical practice is covered in an attractive new public relations manual to be published this fall by the American Medical Association. Containing numerous suggestions offered by physicians from all parts of the country, "Rx Public Relations" gives useful tips on improving doctor-patient relationships and handling business affairs in the doctor's office. This up-to-date booklet will be distributed to all AMA members after September 25.

New Film Rates "A" As PR Aid: Democracy in action exemplified in a new motion picture film—"A Citizen Participates"—shows how members of a rural community can work together to get a physician. Produced by the Centron Corporation and cleared by the American Medical Association, this film should be a valuable public relations tool for state and county medical societies. The film may be obtained on loan from Young America Films, Inc., for showings to various organizations and business groups in your community. Running time—27 minutes. For further information contact: Young America Films, Inc., 18 East 41st Street, New York 17, N. Y.

Report On Grievance Committees

Just off the presses is a detailed report on county medical society grievance committees. Prepared by the AMA's Council on Medical Service, this study deals with the organization, functions and operations of 198 mediation committees throughout the country. To make the data of more practical value, the societies have been divided into groups according to size. Copies of the booklet are available from the Council.

Medicine Strikes At "Big Game"

What medicine is doing to overcome the principal causes of death in the world today is the theme of a new series of radio transcriptions to be released by the AMA, September 15. The 13-program series—"Medicine Fights the Killers"—covers the following subjects: coronary thrombosis, rheumatic heart disease, lung cancer, leukemia, hypertension, accidents, nephritis, premature births, tuberculosis, pneumonia, diabetes, suicide and poliomyelitis. Prepared by the Bureau of Health Education, these transcriptions may be aired over local radio stations under the auspices of state and county medical societies.

PROGRAM

FALL CLINICAL SESSION

Maine Medical Association

Bangor, Maine

October 25 and 26, 1953

HEADQUARTERS

Bangor House

174 Main Street, Bangor

CLINICS

Eastern Maine General Hospital

489 State Street, Bangor

Sponsored by the Penobscot County Medical Society

COMMITTEE ON ARRANGEMENTS

Richard C. Wadsworth, M. D., *Chairman*

Magnus F. Ridlon, M. D.

Lawrence M. Cutler, M. D.

Albert W. Fellows, M. D.

George W. Wood, III, M. D.

PROGRAM

Sunday, October 25, 1953

6.30 P. M.

Dinner—Bangor House

(For physicians and wives)

Speaker: Sara M. Jordan, M. D.
Chief of Gastroenterology Section
Lahey Clinic, Boston

Subject: Digestion, Diet and Doctors

Monday, October 26, 1953

Clinical Program

EASTERN MAINE GENERAL HOSPITAL

MORNING SESSION

9.00 A. M.-12.00 Noon

9.00 A. M. Orthopedic Cases (Outpatient Department)
Allan Woodcock, M. D.
Peter S. Skinner, M. D.
Samuel S. Silsby, M. D.

Ward D

9.30 A. M. Gastric Bleeding
Allison K. Hill, M. D.
Discussion by Joseph B. Stull, M. D.

10.00 A. M. Intestinal Polyps
Albert C. Todd, M. D.

10.30 A. M. Regional Ileitis
Richard T. Munce, M. D.

11.00 A. M. Fluids and Electrolytes in Surgery
Robert J. Hughes, M. D.

11.30 A. M. Remarks by Guest Moderator
Sara M. Jordan, M. D.

1.00 P. M.

Luncheon, Dining Room, Eastern Maine General Hospital

AFTERNOON SESSION

2.00 P. M.-4.30 P. M.

2.00 P. M. Selection of Cases for Cardiac Surgery
Wilbur B. Manter, M. D.

2.30 P. M. Infantile Cortical Hyperostosis
Albert W. Fellows, M. D.
Frederick C. Emery, M. D.
Eugene E. Brown, M. D.

3.00 P. M. Selected Orthopedic Cases from Children and Young Adults
John A. Woodcock, M. D.

3.30 P. M. Mediastinal Tumors
Lloyd Brown, M. D.
George W. Wood, III, M. D.

4.00 P. M. Remarks by Dr. Neuhauser

6.30 P. M.

Dinner—Bangor House

Speaker: Edward Blaine Duncan Neuhauser, M. D.
Roentgenologist, Infants and Children Hospitals, Boston

Subject: Pediatric Roentgenology in General Practice

NOTICES

Registration—Bangor House

Sunday, October 25, 1953

5.00-6.30 P. M.

Monday, October 26, 1953

8.30 A. M.-6.30 P. M.

Editorial Board Meeting

There will be a luncheon meeting of the Editorial Board of The Journal of the Maine Medical Association at the Bangor House on Sunday, October 25, 1953, at 12.00 noon.

Council Meeting

There will be a meeting of the Council of the Maine Medical Association at the Bangor House on Sunday, October 25, 1953, at 3.00 P. M.

PROGRAM

WOMAN'S AUXILIARY

TO THE

MAINE MEDICAL ASSOCIATION

Sunday, October 25, 1953

6.30 P. M. Dinner Meeting, Bangor House

See Maine Medical Association Program

Monday, October 26, 1953

Bangor House

10.00 A. M. Board Meeting — Mrs. Asa C. Adams, President, Woman's Auxiliary, Maine Medical Association, presiding

12.30 P. M. Luncheon

2.00 P. M. Workshop — Director, Mrs. Frank W. Barden, President-elect, Woman's Auxiliary, Maine Medical Association

Mrs. Robert Flanders, Manchester, New Hampshire, First Vice President, Woman's Auxiliary, American Medical Association, will be a guest

Evening Program

6.30 P. M. Dinner at the Tarratine Club

Speaker: Mrs. Robert Flanders

Committee on Arrangements

Mrs. Richard T. Munce, *Chairman*

Mrs. John S. Houlihan

Mrs. Arthur N. Lieberman

Mrs. Donald E. Bridges

Mrs. Dexter J. Clough, 2nd

SPECIAL COMMITTEES
1953 - 1954

The following Special Committees for 1953-1954 have been appointed by the President, Norman H. Nickerson, M. D., of Greenville.

Committee on Blood Transfusions

Richard C. Wadsworth, M. D., Bangor, *Chairman*
Franklin F. Ferguson, M. D., Portland
Charles F. Branch, M. D., Auburn
Gerald H. Donahue, M. D., Presque Isle
John F. Reynolds, M. D., Waterville

Amy W. Pinkham Fund Committee

Virginia C. Hamilton, M. D., Bath, *Chairman*
Albert M. Carde, M. D., Milo
Norman H. Nickerson, M. D., Greenville
Thomas A. Foster, M. D., Portland
Ella Langer, M. D., Augusta
Philip G. Good, M. D., Portland
Albert W. Fellows, M. D., Bangor

Diabetes Committee

Elton R. Blaisdell, M. D., Portland, *Chairman*
Paul R. Chevalier, M. D., Lewiston
Frederic B. Champlin, M. D., Waterville
Lyman O. Warren, M. D., Brewer
Robert G. MacBride, M. D., Lubec
Robert B. Somerville, M. D., Presque Isle

Tuberculosis Committee

Edward A. Greco, M. D., Portland, *Chairman*
George E. Young, M. D., Skowhegan
Seth H. Read, M. D., Belfast
William B. Grow, M. D., Fairfield
Francis J. Welch, M. D., Portland
Lester Adams, M. D., Greenwood Mountain
Dean Fisher, M. D., Augusta
George C. Howard, M. D., Guilford

Committee on Maternal and Child Welfare

Alice A. S. Whittier, M. D., Portland, *Chairman*
Clair S. Bauman, M. D., Waterville
Daniel F. Hanley, M. D., Brunswick
Virginia C. Hamilton, M. D., Bath
Norman B. Murphy, M. D., Augusta
Philip H. McCrum, M. D., Portland
Edwin Kay, M. D., Lewiston
Frank W. Kibbe, M. D., Rockland

Cancer Committee

William Holt, M. D., Portland, *Chairman*
Romeo A. Beliveau, M. D., Lewiston
Gordon N. Johnson, M. D., Houlton
Magnus F. Ridlon, M. D., Bangor
Isaac M. Webber, M. D., Portland
Forrest B. Ames, M. D., Bangor

Committee on Social Hygiene

Oscar R. Johnson, M. D., Portland, *Chairman*
Donald L. Anderson, M. D., Lewiston
Carl E. Blaisdell, M. D., Bangor

State Committee — National Education Campaign

Martyn A. Vickers, M. D., Bangor, *Chairman*
Francis A. Winchenbach, M. D., Bath
William F. Mahaney, M. D., Saco
Gerald H. Donahue, M. D., Presque Isle
Armand Albert, M. D., Van Buren
John F. Reynolds, M. D., Waterville

Committee on Conservation of Vision

Howard F. Hill, M. D., Waterville, *Chairman*
Paul Maier, M. D., Portland
Paul E. Floyd, M. D., Farmington
Otis B. Tibbetts, M. D., Auburn
Warren E. Kershner, M. D., Bath
Dexter J. Clough, 2nd, M. D., Bangor

Arthritis Committee

Philip P. Thompson, Jr., M. D., Portland, *Chairman*
Allan J. Stinchfield, M. D., Hallowell
Robert O. Kellogg, M. D., Bangor
Robert A. Frost, M. D., Auburn

Committee on Mental Health

Margaret R. Simpson, M. D., Togus, *Chairman*
C. Harold Jameson, M. D., Rockland
Amy L. Cattley, M. D., Lewiston
Byron V. Whitney, M. D., Bangor
David Davidson, M. D., Portland

Committee to Supervise Nurses' Attendants

Clyde I. Swett, M. D., Island Falls, *Chairman*
Foster C. Small, M. D., Belfast
Currier C. Weymouth, M. D., Farmington
W. Mayo Payson, Portland, Clerk

Medical School for Maine Committee

Foster C. Small, M. D., Belfast, *Chairman*
Frederick T. Hill, M. D., Waterville
Donald F. Marshall, M. D., Portland
Forrest B. Ames, M. D., Bangor
Stephen A. Cobb, M. D., Sanford
William Holt, M. D., Portland
Ralph A. Goodwin, Sr., M. D., Auburn
Eugene H. Drake, M. D., Portland

Committee on Civil Defense

Charles W. Steele, M. D., Lewiston, *Chairman*
Ralph A. Getchell, M. D., Portland
Harry Butler, M. D., Bangor

District Members:

1st—Albert W. Moulton, M. D., Portland, *Deputy Chairman*
2nd—Ralph A. Goodwin, Sr., M. D., Auburn
3rd—C. Harold Jameson, M. D., Rockland
4th—John A. Caswell, M. D., Belfast
5th—James H. Crowe, M. D., Ellsworth
6th—Richard C. Wadsworth, M. D., Bangor

Members-at-Large:

Roscoe L. Mitchell, M. D., Hallowell
Clark F. Miller, M. D., Auburn
Col. O. H. Stanley, M. C., Brunswick
Charles F. Branch, M. D., Auburn
Dean Fisher, M. D., Augusta
Frederick T. Hill, M. D., Waterville

Committee on Industrial Health

Frank W. Barden, M. D., Biddeford, *Chairman*
William A. Monkhouse, M. D., Portland
Albert A. Darche, M. D., Westbrook
Ernest T. Young, M. D., Millinocket
Albert P. Royal, M. D., Rumford
Albert C. Todd, M. D., Brewer
Edwin W. Harlow, M. D., Waterville

Veterans' Affairs Committee

William C. Burrage, M. D., Portland, *Chairman*
Philip O. Gregory, M. D., Boothbay Harbor
Allan C. Hurd, M. D., Gardiner
Maynard B. Colley, M. D., Wilton

M. M. A. Representative on the Maine Committee of the American Academy of Pediatric's Committee on Fetus and Newborn

Henry C. Thacher, M. D., Auburn

WOMAN'S AUXILIARY
MAINE MEDICAL ASSOCIATION

Officers and Committee Chairmen
1953 - 1954

OFFICERS

President
Mrs. Asa C. Adams, Orono

President-Elect
Mrs. Frank Barden, Kennebunk

Vice-President
Mrs. Merrill Greene, Lewiston

Recording Secretary
Mrs. James Shippee, Winthrop

Corresponding Secretary
Mrs. Benjamin Shapero, Bangor

Treasurer
Mrs. Linus Stitham, Dover-Foxcroft

Parliamentarian
Mrs. Benjamin Zolov, Portland

COMMITTEE CHAIRMEN
STANDING COMMITTEES

Organization
Mrs. Frank Barden, Kennebunk

Public Relations
Mrs. Alvin Morrison, Portland

Program
Mrs. Paul Millington, Camden

Press and Publicity
Mrs. Armand Albert, Van Buren

Bulletin
Mrs. Irving Goodof, Waterville

Today's Health
Mrs. John Friend, Farmington

Publications
Mrs. Philip B. Chase, Farmington

Revisions
Mrs. Ralph Goodwin, Auburn

Necrology
Mrs. Robert Belknap, Damariscotta

Legislation
Mrs. Francis Sleeper, Augusta

Special Committees
Civil Defense
Mrs. Richard Hawkes, Portland

Health Council
Mrs. Philip B. Chase, Farmington

Nurse Recruitment
Mrs. Dexter Clough, Bangor

Mental Health
Mrs. Harold Pooler, Bangor

American Medical Education Foundation
Mrs. Storer Boone, Presque Isle

COUNTY SOCIETIES

Androscoggin
President, William Spear, M. D., Lisbon Falls
Secretary, Norman O. Gauvreau, M. D., Lewiston

Aroostook
President, Clement L. Donahue, M. D., Caribou
Secretary, Clyde I. Swett, M. D., Island Falls

Cumberland
President, Carl E. Dunham, M. D., Portland
Secretary, Ralf S. Martin, M. D., Portland

Franklin
President, Harry Brinkman, M. D., Farmington
Secretary, Paul E. Floyd, M. D., Farmington

Hancock
President, Herbert T. Wilbur, Jr., M. D., Southwest Harbor
Secretary, Arthur M. Joost, Jr., M. D., Bucksport

Kennebec
President, Kurt A. Sommerfeld, M. D., Gardiner
Secretary, Arch H. Morrell, M. D., Augusta

Knox
President, Oram R. Lawry, Jr., M. D., Rockland
Secretary, Barbara G. Luce, M. D., Rockland

Lincoln-Sagadahoc
President, Samuel L. Belknap, M. D., Damariscotta
Secretary, John P. Goodrich, M. D., Boothbay Harbor

Oxford
President, David S. Broughton, M. D., Rumford
Secretary, Dexter E. Elsemore, M. D., Dixfield

Penobscot
President, Harry Butler, M. D., Bangor
Secretary, Herbert C. Scribner, M. D., Bangor

Piscataquis
President, Francis W. Bradbury, M. D., Dover-Foxcroft
Secretary, George C. Howard, M. D., Guilford

Somerset
President, H. Carl Amrein, M. D., Madison
Secretary, Niles L. Perkins, Jr., M. D., Bingham

Waldo
President, George L. Temple, M. D., Belfast
Secretary, Raymond L. Torrey, M. D., Searsport

Washington
President, James C. Bates, M. D., Eastport
Secretary, Karl V. Larson, M. D., East Machias

York
President, Frank W. Barden, M. D., Biddeford
Secretary, C. W. Kinghorn, M. D., Kittery

NEWS AND NOTES

American Trudeau Society

Annual Meeting—Eastern Section
Portland, Maine—October 23-24, 1953

The 1953 annual meeting of the Eastern Section of the American Trudeau Society will be held in Portland, Maine, on Friday and Saturday, October 23 and 24, 1953. Headquarters and sessions will be at the Eastland Hotel. Reservations should be made directly with the hotel.

The Program Committee, Dr. Norman L. Wilson, Chairman, has arranged an unusually fine program on tuberculosis, other chest diseases and cardiac problems. Among the topics will be: virulence of tubercle bacilli from isoniazid treated patients; late follow-up of tuberculous patients treated with chemotherapy and early, complete mobilization; recent advances in treatment of severe pulmonary emphysema; comparative review of thoracoplasty and resection in treatment of pulmonary tuberculosis; surgical treatment of mitral insufficiency; acute respiratory acidosis; four papers on pulmonary tumors; and a panel on revascularization of the myocardium in treatment of coronary insufficiency.

All members of the Eastern Section, of the American Trudeau Society, and interested physicians are invited to attend.

Legislative Research Committee Public Hearings — Augusta, Maine October 20 and 21, 1953

The Legislative Research Committee of the State of Maine will hold a public hearing on Tuesday, October 20, at 1.30 P. M., in the Judiciary Room of the State House, Augusta, Maine, on the problem of Hospital Aid, including costs of operation and methods of financial support.

The Committee will also hold a public hearing on October 21, at 9.30 A. M. at the State House, on the problem of the organization of public health services.

SAMUEL H. SLOSBERG,
Director of Legislative Research.

Urology Award

The American Urological Association offers an annual award of $1,000.00 (first prize of $500.00, second prize, $300.00 and third prize, $200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than ten years, and to men in training to become urologists.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Waldorf-Astoria, New York City, May 31-June 3, 1954.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before February 1, 1954.

Continued on page 278

NECROLOGY

Edwin Wagner Gehring, M. D.
1876 - 1953

Early Saturday morning, August 8th, 1953, Dr. Edwin W. Gehring died while sleeping peacefully at his home, 284 Ocean Avenue, Portland, Maine.

Dr. Gehring was for many years an active member of the Maine Medical Association and a distinguished practitioner of medicine in his adopted City—Portland.

He was born in Cleveland, Ohio, March 3, 1876; his father was August Herbert Gehring and his mother Catherine Wagner. His early years were spent in Cleveland where he attended the public grade schools and then entered University School for high school training. Not enjoying robust health during these years, he journeyed to Bethel, Maine, to imbibe the invigorating atmosphere of Oxford County. While at Bethel he studied in Gould Academy. After preparatory school days he studied at M. I. T., transferring in his senior year to Cornell University where he was graduated with a degree in civil engineering.

However, he turned from his studies in engineering to take up the study of medicine. He started his medical course at the Medical School of Harvard University, later transferred to the Medical School of Maine from which institution he received a Degree in Medicine in 1904. This Degree in Medicine marked the beginning of a life devoted to the study and practice of his chosen profession. Dr. Gehring served as an Intern in the Maine General Hospital for a year. Finishing with honors his service at the hospital, he opened an office in Portland for the practice of Internal Medicine.

His ability and talent as a practitioner were recognized soon after his location in the medical circles of Portland. For several years he was elected a member of the Medical Faculty of his Alma Mater and taught classes in Physiology and Internal Medicine to his unalloyed enjoyment and to the profit of his students. Always a student, he enlarged his medical knowledge with attendance at clinics in London, Vienna and Berlin, at that time progressive centers for post-graduate studies. He was an early advocate of group practice and associated himself with a company of specialists who maintained a suite of offices in the Y. M. C. A. Building in Portland and carried on there an extensive consultation practice.

The Maine General Hospital enjoyed his loyal support and faithful service over a period of changing administrations. In 1928, the Board of Trustees of the Hospital appointed him Chief of the Medical Service, a position which he held with the highest standards of professional ethics and the broadest understanding of the patients' welfare. For a long time he was associated with the Children's Hospital of Portland and served as Chief of Medical Staff.

In organized medical associations he always bore his share of the duties and responsibilities. He was a president of the Portland Medical Club, past president of the Cumberland County Medical Society, a Councilor of the Maine Medical Association and in 1934-1935, its president. He was a charter member of the American College of Physicians and a member of the Board of Governors for many years. And he was a staunch member of the American Medical Association. In and out of the State of Maine he was hailed as a skillful physician and a valued counsellor. He prepared many scholarly papers for medical publications and sat in the editor's chair of the Maine Medical Journal in 1935 and 1936. In addition to his written essays, he prepared many an address for medical and lay meetings. He was happily endowed with a dignified yet easy manner before a gathering of his medical colleagues and friends and spoke with an agreeable voice in an orderly, logical sequence, spiced with a light touch of humor and a lively wit.

Although Dr. Gehring established an active place for himself in practice and in medical societies, he was in no sense a one sided man. He was familiar with the best in literature, devoted to the classics of all ages, but ever willing to enjoy the modern writers if they had something worth saying. And in common with men of his interests and training frequently ready with a quotation which was appropriate to the occasion. He liked good music and enjoyed the company of talented musicians. He served as a member of the Portland Music Commission over a period of years. He liked the outdoors and while not a hunter or a fisherman, he was a member and past president of the Cumberland County Audubon Society. He was a stalwart member of the State Street Congregational Church and served as a Deacon.

He is survived by his wife, Alice Chamberlain Gehring, two daughters, Marcia—Mrs. C. Fred Smith of Marblehead, Massachusetts, Jane—Mrs. John A. Bowker of Trumansburg, New York, four grandchildren, one great-grandchild, and two brothers, Dr. Norman J. Gehring, San Diego, California, and Victor M. Gehring, Painesville, Ohio.

News and Notes—Continued from page 276

State of Maine
Board of Registration of Medicine

Adam P. Leighton, M. D., 192 State Street, Portland, Secretary.

List of Physicians Licensed on July 15, 1953, to practice Medicine and Surgery in the State of Maine.

Through Examination

Brian J. Lemass, M. D., Boston City Hospital, Boston, Mass.
Pim W. K. Ligthart, M. D., Augusta State Hospital, Augusta, Me.
Thomas P. Mahan, M. D., Maine General Hospital, Portland, Me.
William J. Tetreau, M. D., 17 Tremont St., Portland, Me.

Through Reciprocity

John F. Andrews, M. D., 58 Deering St., Portland, Me.
Paul M. Beegel, M. D., 29 Searsport Ave., Belfast, Me.
H. G. Bowne, M. D., Farmington, Me.
Barbara S. Ferguson, M. D., 29 Searsport Ave., Belfast, Me.
Richard F. Desjardins, M. D., 261 Union St., Bangor, Me.
Peter J. Fennel, M. D., 58 Hill St., South Portland, Me.
Rodney J. Foss, M. D., Eastport, Me.
Robert M. Gabrielson, M. D., 619 E. 40 St., Brooklyn, N. Y.
Richard A. Gaillard, M. D., U.S.N.H., NNMC, Bethesda, Md.
Herbert C. Gilman, M. D., Penobscot Ave., Millinocket, Me.
Irving M. Hayward, Jr., M. D., Caribou, Me.
Roger B. Hickler, M. D., 161 Woodland St., So. Natick, Mass.
Donald H. Horsman, M. D., 419 Main St., Lewiston, Me.
Ann S. Howard, M. D., Maine General Hospital, Portland, Me.
Raymond J. Lantos, M. D., Camp Brunonia, Casco, Me.
William C. Luther, M. D., 48 Greene St., Greenwood, R. I.
David W. Marsters, M. D., Strong, Me.
Peter R. Mociuk, M. D., 1439 S. Michigan Ave., Chicago 5, Ill.
George N. Nackley, M. D., 62 State St., Portland, Me.
Bourcard Nesin, M. D., 10 Water St., Howland, Me.
Harold E. Record, M. D., 408 Commercial St., E. Braintree, Mass.
Bertha P. Rodger, M. D., South Bristol, Me.
Stanley B. Sylvester, M. D., 1291 Westbrook St., Portland, Me.
James O. Wynn, Jr., M. D., Naval Radio Station, Winter Harbor, Me.
Edward L. Young, M. D., 1180 Beacon St., Brookline, Mass.
John P. Greene, M. D., Rumford, Me.

Venereal Disease Clinics

The Department of Health and Welfare, Bureau of Health, maintains facilities for the diagnosis and treatment of venereal diseases in the following locations:

Augusta, Bangor, Bath, Belfast, Biddeford,
Lewiston, Portland, Rockland, Rumford,
Sanford, Waterville, Wilton and Winthrop.

Any physician wishing to refer an indigent person for diagnosis or treatment may obtain the name of the nearest clinic physician by contacting the Department of Health and Welfare, Bureau of Health, State House, Augusta, Maine. If no clinic facilities are available, physicians will be authorized to treat indigent patients in their offices. Authorization should be requested before treatment is started.

Medical Book Guild of America

A few months ago the Medical Book Guild of America, a book club for physicians, was organized to bring new and important medical books to doctors at substantial savings, thus providing wider distribution of needed new medical works.

For further information write to The Blakiston Co., Inc., 575 Madison Avenue, New York 22, N. Y.

Mental Health Clinic Schedule

The Division of Mental Health offers psychiatric clinic service to children and adults in the following cities:

Portland — Health and Welfare Department, 178 Middle Street. Every Tuesday.

Lewiston — Out-Patient Department, Central Maine General Hospital. Every Monday.

Augusta — Bureau of Health, Division of Mental Health. By Appointment.

Waterville — Mansfield Clinic, Thayer Hospital. 3rd Wednesday.

Bangor — Out-Patient Department, Eastern Maine General Hospital. 1st Wednesday afternoon.

Valentine School, Union Street. 1st Thursday.

A traveling clinic visits the following towns and cities at irregular intervals: Caribou, Houlton, Lincoln, Machias, Rockland and Rumford. The Portland Clinic is open daily with a staff of 1 psychiatric social worker and 1 psychologist. The psychiatrist is in attendance on Tuesdays. The other clinics are staffed by a psychiatrist and a psychologist.

Referrals may be made by private physicians, parents, families, school agencies, school superintendents, Department of Education, all divisions within the Department of Health and Welfare. Application blanks may be obtained from the main office of the Division of Mental Health — State House. Augusta.

Patients are seen by appointment only. Each child must be accompanied by a parent or guardian. Applications should be sent to the Director, Division of Mental Health, Department of Health and Welfare, State House, Augusta.

Tumor Clinics

Sisters Hospital, Waterville, Maine, 1st and 3rd Thursdays, 10.00-11.00 A. M., Armand L. Guite, M. D., Director.

Augusta General Hospital, Augusta, Maine, 1st Monday, 9.00 A. M., Leon D. Herring, M. D., Director.

Bath Memorial Hospital, Bath, Maine, 2nd Tuesday, 3.00-5.00 P. M., Francis A. Winchenbach, M. D., Director.

Maine General Hospital, Portland, Maine, Thursdays, 10.00 A. M., Joseph E. Porter, M. D., Director.

Presque Isle General Hospital, Presque Isle, Maine, Thursdays, 10.00-12.00 A. M., Storer W. Boone, M. D., Director.

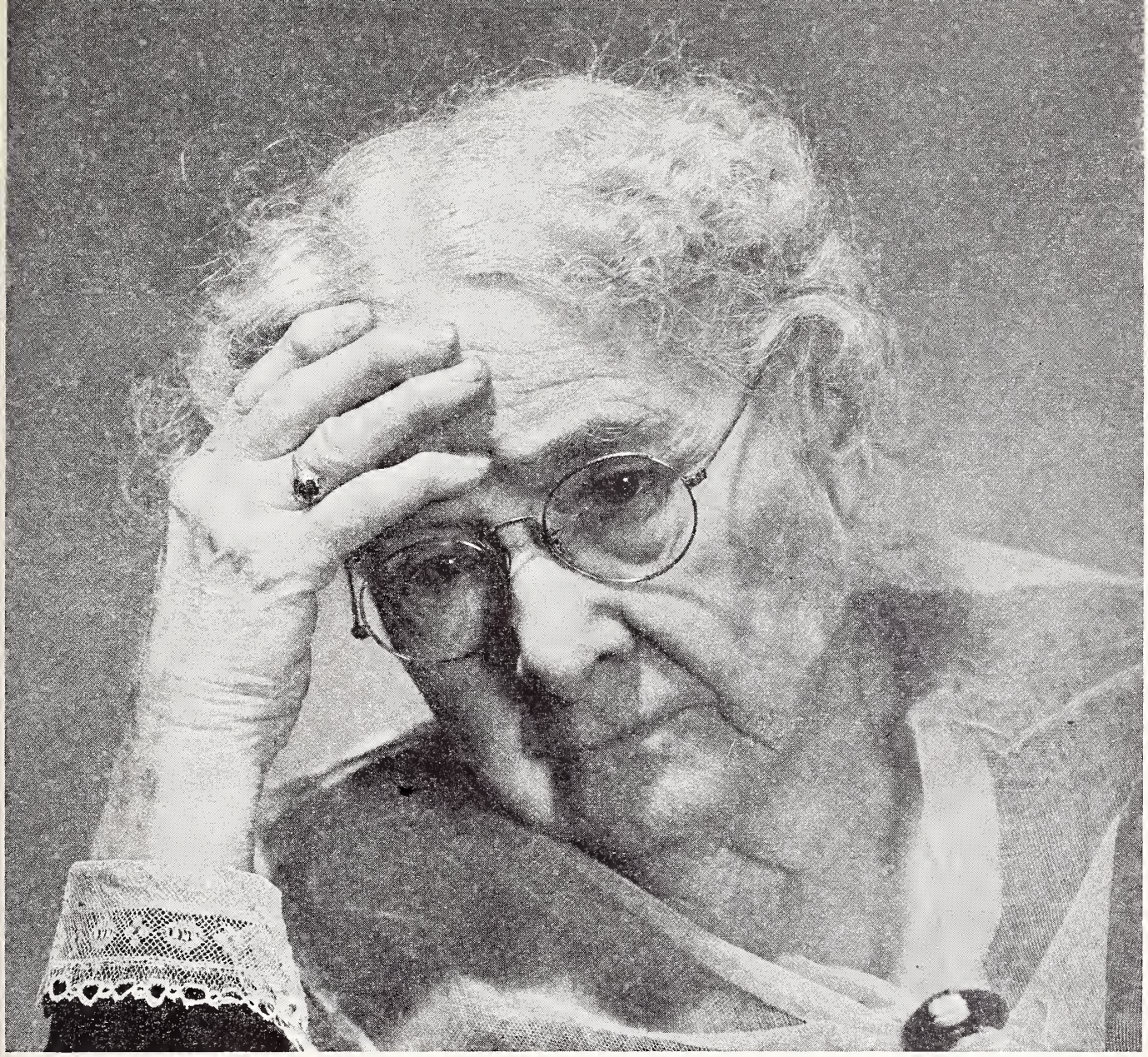
Madigan Memorial Hospital, Houlton, Maine, 2nd and 4th Wednesdays, 10.00-12.00 A. M., Joseph A. Donovan, M. D., Director.

Central Maine General Hospital, Lewiston, Maine, Tuesdays, 10.00 A. M., Ross W. Green, M. D., Director.

St. Mary's General Hospital, Lewiston, Maine, Wednesdays, 3.30 P. M., Romeo A. Beliveau, M. D., Director.

Eastern Maine General Hospital, Bangor, Maine, Thursdays, 10.30 A. M., Magnus F. Ridlon, M. D., Director.

Thayer Hospital, Waterville, Maine, Tuesdays, 10.00-11.00 A. M., Irving I. Goodof, M. D., Director.



The inevitable restrictions of advancing years, the reduced activity and a lowered intake of bulk-producing foods all contribute to the high incidence of constipation in older persons.

CONSTIPATION IN THE AGED

Constipation is almost a universal complaint of geriatric patients

Frequently, too, the protracted use of cathartics has left the colon in an atonic state and it is no longer capable of effecting a normal evacuation.

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Metamucil® is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

SEARLE *Research in the Service of Medicine*

TUBERCULOSIS ABSTRACTS*

Issued by the National Tuberculosis Association

Tuberculous Infection in the Light of Tuberculin Matriculation

By Tobias Gedde-Dahl, M. D., The American Journal of Hygiene, September, 1952.

(Ed. Note: The decline in the tuberculosis death rate in some sections of the United States has led to a situation in which virtual eradication in these local areas is now a possibility. In this connection the summary of an extended study of the epidemiology of tuberculosis in a rural population in Norway is presented. The material, of which the article cited is but a part, was published in book form in the Norwegian language.)

Tuberculosis control measures may be based on the assumption that early treatment hinders existing or potential sources of infection from spreading the disease, and shortens the duration of institutional treatment. If most cases of pulmonary tuberculosis develop soon after infection, then the demonstration of the change from a negative to a positive tuberculin reaction provides the earliest diagnosis.

Tuberculin matriculation was the term applied to tuberculin testing of the whole population, which was then divided into a tuberculin-positive and a tuberculin-negative group. The latter was retested with tuberculin at suitable intervals. The postive group and the converters were kept under radiological observation until the risk of disease was minimal and were retested with tuberculin at long intervals.

When, in 1937, the author began to carry out tuberculin matriculation, several questions arose. Was tuberculin matriculation feasible in Norway? What was likely to be discovered with regard to tuberculous infection, disease and transmission? Can tuberculous infection be controlled? Can the further spread of infection, morbidity and mortality be influenced thereby?

The experiment was made in the medical district of Kinn with a population of about 6,500 persons engaged, for the most part, in fishing and farming. In each school district all inhabited houses were mapped and numbered. All households were listed with the name and occupation of each family member and information concerning the tuberculin reaction, tuberculin conversion, illness, contact with tuberculosis and X-ray examinations. Individual health examination cards were filed by families. The cards of persons with notified tuberculous disease and converters were kept in a separate file, the tuberculosis register. The nurses who did most of the work in tuberculin matriculation also had a generalized public health program.

The study proved that it was possible within a limited area to reduce the spread of infection from primary infection tuberculosis, that is, pulmonary tuberculosis developing during the first few years after infection. This is notably the case with tuberculosis in juveniles. However, in a few instances spread of the disease occurred even in the primary phase before diagnosis. In some instances control has been deficient. It has proved impossible to prevent all infections by juvenile sources of infection among newcomers and visitors. Many of these individuals had, presumably, primary infection tuberculosis (hilus cavities in two cases). When tuberculosis control is effected throughout the country it should be possible to protect ourselves against such infections. But spread of the disease continues owing to new outbreaks of old disease, relapses or progressive changes occurring long after the original infection. Progressive disease often follows defective treatment and observation. Spread of infection may also be due to defective coöperation between physicians and the health councils, and lack of continuity in local health activities. Many patients feared relapse and tried to avoid examination.

In most cases the spread of infection could be avoided by more vigorous treatment and more complete follow-up of older patients with tuberculosis. Yet, however accurately we carry out the health examinations, we cannot achieve complete victory over infection until the public has become better informed. It sometimes happens that an infectious form of primary pulmonary tuberculosis runs such a rapid course that others have been infected before the next scheduled examination. A flare-up of an older infection may also occur rapidly. In many instances the ignorance and asocial attitude of the sources of infection have contributed to the spread of infection. There is a difference between infectious and infecting pulmonary tuberculosis. We consider every person with lung infiltrations and bacilli found through smear or gastric lavage, or with only a suspect cavity, to have "infectious tuberculosis." This estimation, however, gives misleading figures of the frequency of infecting tuberculosis.

Even if we realize how dangerous some infection sources may be, we are impressed by the low infectiousness of pulmonary tuberculosis. This may be a question of intimacy of contact or of virulence and viability, that is, the infecting capacity of the tubercle bacilli from different types of pulmonary tuberculosis. These problems are important in the evaluation of our chances to establish efficient epidemiological control of tuberculosis, which are probably much greater than was formerly believed in Norway.

Tuberculin matriculation is a feasible method in tuberculosis control in small towns and rural areas if public health nurses are available. The development of infection may be followed from an early stage and the spread of the disease traced. Moreover, it gives information for a clearer insight into the epidemiology. The facts permit us to consider tuberculosis as a disease which can be fought by epidemiological means which permit early detection and treatment of primary infections and their infectious sources. The lower the infection rate is in a region, the more important is the epidemiological approach compared with other mass examination methods. As tuberculosis decreases, it becomes important to combine tuberculin matriculation with general health examinations. This plan leads to decentralization of tuberculosis control and to closer and more permanent supervision of the "healthy" population.

Mass radiography as a screening mechanism, though of importance in cities and in persons past middle age, will not be the basic method in the long run. By repeated tuberculin testing it is possible to uncover fresh primary infections and to focus control efforts on the most important group — recently infected persons. X-ray examination of uninfected persons is thereby avoided.

Another valuable supplement is BCG vaccination of exposed persons. However, in regions with low infection rates, mass vaccination will be scarcely practical. A steadily increasing number of persons has to be vaccinated and protected against a diminishing threat. Most important, mass vaccination deprives us of the power to distinguish between the infected and the uninfected making X-ray examination of all the population necessary. Finally, a cardinal factor in making a correct prognosis of a primary tuberculous infection is the knowledge of the time of onset. This factor cannot be known in a vaccinated population.

Therefore, it is concluded that tuberculin matriculation is the fundamental principle in tuberculosis control of the future in regions or populations with low infection rates. The less frequent the occurrence of tuberculosis, the more selective the method must be.

(The printing of Tuberculosis Abstracts is made possible by the coöperation of your local tuberculosis and health association.)

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LAME BACKS*

Frank R. Ober, M. D., Boston, Massachusetts**

Mr. Chairman and members of the Maine Medical Association.

The first State meeting I ever attended was that of the Maine Medical Association, in this city, forty-odd years ago, when I was a member, and the Lafayette Hotel across the street was our headquarters.

If I told you everything that I know and that I don't know about lame backs, it would take me all day. So I am just going to confine myself to a few things which I think will be of interest to you.

The family physician is the one who sees most of the lame back patients and is the one who relieves most of them.

For many years, medical students have been more or less averse to attending clinics and lectures that have to do with orthopedic problems, or else many medical schools have not offered courses in joint troubles, as this specialty has always been considered a minor subject and unworthy of serious attention; hence the attitude of many physicians.

It is just as important to know how to do a physical examination of a joint as it is one of the chest or any other part of the anatomy. At least fifty per cent of the lesions of war injuries had to do with the musculo-skeletal system. In private practice, at least thirty per cent of the disabilities encountered will be related to musculo-skeletal structures. The proper early care of these conditions will, in most instances, restore the patient to an early return to his occupation.

It is intended in this paper to acquaint you gentlemen with the methods of routine examination of the lame back patient, to show some of the conditions which produce the symptom backache, and to advise about the management of the acute case and the chronic phase when it follows an acute attack.

History: The primary requisite in the treatment of the back patient is to secure an adequate history, because such a history may well establish the cause. The history of any constitutional ailment may have a bearing on the condition.

In getting the history of the local condition, one should determine the date and mode of onset of all attacks, the occupation of the patient, whether there is pain, and if so, whether it is localized to the back or radiates along nerves, especially the sciatic, femoral, lateral femoral cutaneous, hypogastric, or the ilio-inguinal. Does position increase or decrease the disability?

Also, inquiry should be made about the type of chair in which the patient sits and the type of bed on which he sleeps. Is there constipation, diarrhea, bloody stools, urinary frequency, urgency, and bloody urine?

Pain in the back may be referred from gastrointestinal lesions and lesions of the urinary apparatus.

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* Presented at M. M. A. Centennial Session, Portland, Maine, June, 1953.

** Surgeon-in-Chief, New England Peabody Home for Crippled Children, Emeritus, Chief Orthopedic Department, Boston Children's Hospital, Emeritus, and John B. and Buckminster Brown Clinical Professor, Emeritus, Harvard Medical School.

If there is pain along the sciatic nerve, is it confined to the gluteal region, the thigh, calf, ankle, or toes, or does the nerve pain extend throughout its whole course?

Is there numbness, tingling or weakness in the extremity, and is it intermittent or present all the time?

At times, sciatic pain may be most unbearable, even to the point of upsetting mental reactions of the patient. What effect does position have in relation to comfort and discomfort?

Etiology: There are many causes of backache, some of which are not related to the spine at all. For example, one of the earliest symptoms of smallpox is a severe backache.

In general, the etiology of lame back may be classified under:

General infections.
Focal infections.
Local infections of the spine (osteomyelitis, typhoid, tuberculosis).
Diseases of the abdominal viscera.
Diseases of the genito-urinary tract.
Diseases of the female pelvic organs.
Congenital malformations of the spine.
Scoliosis.
Fatty tumors in the gluteal regions.
Pseudo-somatic.
Malignancy, primary or metastatic.
Osteoporosis of the spine.
Blood diseases.
Arthritis (Rheumatoid, Osteo, Marie Strümpell).
Traumatic Lesions.
Bad Posture.
Degenerated Discs.
Ruptured Discs.

Examination: In making an examination of a lame back, it must be remembered that the spine has four physiological curves, and that the spine is a mobile structure, made up of bones, joints and ligaments, controlled by an extensive muscular system.

If it is possible for the patient to stand, be sure he is in a good light. Observe the contours of the spine from the back and side. Do the arms hang at an equal distance from the waist line? Is there a curvature, either structural or functional? If functional, will graduated lifts placed under the foot on the convex side of the curve make the spine plumb?

From the side, note the postural stance. Is the head held forward? Are the dorsal and lumbar curves increased or decreased? And is the trunk thrust posterior over the pelvis?

Exaggeration of these physiological curves produces mal-alignment resulting in strain of the supporting ligaments. Also, changes in the physiological curves may be due to bad posture, disease, or congenital malformations. When there is irritation of the spinal structures, the supporting muscles are in a constant spasm which is a protective splinting of the spine. The muscle spasm (one of the chief characteristics of many spinal lesions) in itself is also a source of discomfort, soreness, or even great pain, and limits the normal motions of the spine, which are forward and lateral flexion, extension from the forward flexed position, hyper-extension, and rotation.

In testing flexion, one must observe whether the lumbar curve reverses itself, remains in lordosis, or is in a flat or a permanently reversed, that is, in a kyphotic position.

All back motions should be tested also, with the patient in the sitting position and the knees flexed; in many instances, the spinal motions are free in this position, which would lead one to believe that statics, and not disease, are the source of disability.

In cases of short hamstrings, the examiner places one hand on the patient's knee, and with the other grasps the ankle and extends the leg on the knee. In such instances, the patient cannot remain in the flexed position, because the leverage on the hamstrings forces his pelvis backward. These patients, sitting on a table with the knees kept extended, have marked limitation of forward flexion, often not being able to have the trunk come to a right angle when they should be able to touch their knees with the forehead.

The patient, who has no limitation of spinal motion, has normal straight leg raising, has normal flexion at his lumbar region and at his hip joints, has a normal spine.

The connection of the leg structures to the pelvic structures plays a part in low back pain, so that these relations must be tested:

1. Limitation of passive dorsal flexion of the feet, with the knees extended.
2. Limited straight leg raising.
3. Positive Ely sign. The patient lies prone and the examiner flexes the lower leg (knees together) on the thigh. If the anterior thigh fascia and muscles are contracted, the pelvis will rise from the table if the flexion is forced.
4. Positive abduction test. The patient lies on his side, the lower thigh flexed so that the lumbar spine is flat. The examiner steadies the pelvis, grasps the uppermost leg above the ankle, raises the knee in the right angle flexed position, plus thirty or forty degrees of hip flexion, to full abduction, and then extends the thigh, allowing it to hang in line with the body. If the thigh remains abducted, the fascia lata and the iliotibial band are contracted.

This contracture, when present, pulls on the pelvis and affects the sacro-iliac and lumbo-sacral joints. Such patients find it difficult to lie fully supine or fully prone for any length of time.

The reflexes of the extremities should be tested as variations of these may give a definite lead in making a diagnosis. Skin tests for sensory disturbances should also be done. Measure the legs for in-

adequacies in length and to determine atrophy of the thigh and calf. Atrophy of the gluteals is usually present in cases of sciatic pain. A unilateral flattening of the gluteus maximus results in a tilting of the pelvis and is frequently a source of discomfort in the back and/or the leg, especially in the sitting position.

X-ray examination should be made in all cases of low back disturbances. The routine X-ray should be an anterior posterior and lateral of the lumbar and sacral spine; also oblique views may give additional information when the above views show nothing.

In cases of suspected cord tumors or ruptured discs, a lumbar puncture should be done, plus a myelogram.

The diagnosis depends on an adequate history, a complete physical examination, a careful X-ray study, and, when indicated, a complete blood examination.

Treatment depends upon the cause. Most lame backs recover under conservative measures. Even a displaced disc should be given the benefit of such therapy because a great many recover under it.

The kind of treatment to be followed depends on the acuteness, chronicity, and severity. In a very acute condition, especially when associated with sciatic pain, bed rest and sedatives are indicated. The bed should be firm and flat. A board between the mattress and the spring will increase the comfort of many, but sometimes the board is not well tolerated. Hot packs applied to the low back for twenty minutes, three or four times a day also increase the patient's comfort (when the patient is prone a pillow under his abdomen prevents lordosis which is a source of pain).

In the less severe acute attacks, cross layers of adhesive strapping from the inferior angle of the ribs to the coccyx may be applied, and this layer covered with another of adhesive to give more stability, will relieve many of the acute attacks.

If the stiffness, pain and limitation of motion continue after ten days, then a tailor-made corset is worn until signs and symptoms disappear.

Except in those who have no motion in the lumbar spine, steel back braces do not give adequate support at all times. If the back brace is fitted to the contours of the spine while the patient stands, the brace will dig into the lumbar muscles when he sits. If it is fitted in the sitting position, it will not follow the contours of the back in the upright position. The same is true of surgical corsets reinforced with heavy steels. Apparatus for backache should be applied snugly. Tight cinching does nothing except make the muscles sore under the apparatus.

A well-fitted corset can be light; it should follow the contours of the back and support the abdomen; and if the crests of the ilia are not allowed to be pocketed by the corset, the abdomen will not be properly supported, and the corset will ride upwards.

Before the apparatus is discontinued, physical therapy exercises are prescribed. Early, these should consist of slow, intermittent squeezing of the buttock muscles and head raising three or four inches at least twenty-five times twice a day; later, voluntary stretching of the fascia lata, when contracted, should be done.

One exercise frequently advised is forward bending; this exercise should not be given, as it accomplishes nothing in rehabilitation, and may even cause a recurrence of the complaint.

When there is a mild sciatic pain, a lift in the heel of the shoe on the opposite side will often stop the pain within a few days.

When there is a functional scoliosis, the heel on the side of the convexity of the curve must be built up until the spine is plumb. This, alone, has been known to relieve a great many lame back cases.

Cases of ruptured discs are often relieved by conservative protective measures. At least, these should be given a fair trial. But, when the sciatic pain is very severe and there is diminution of the ankle jerk, operative removal of the nucleus pulposus is indicated. However, there are a number of patients who have had their nucleus pulposi removed, who still suffer from recurrent backache. These patients need corsets and exercises in rehabilitation.

Summary

1. Pain in the low back may be due to lesions outside the spine.

2. Limitation of spinal motion occurs in diseases of the spine.

3. Examination of the motions of the spine is very simple and productive of valuable information.

4. A good history will often give the lead to diagnosis.

5. X-ray examination is necessary.

6. The treatment is relief of pain, protection of the spine, and finally, restoration of the normal muscular supporting mechanism of the spine.

ORAL THRUSH DUE TO ANTIBIOTIC THERAPY*

Report of Four Cases

Melvin Bacon, M. D., Sanford, Maine

Oral thrush due to Monilia albicans may occur as a result of antibiotic therapy. There are comparatively few reports in the literature concerning it. Weinstein,[1] reported five cases in which, during the course of therapy with streptomycin and penicillin, new infections developed due to organisms that were not susceptible to the antibiotic agents being used for the primary disease. Woods and co-workers[2] observed twenty-five cases of moniliasis developing as a result of the administration of aureomycin hydrochloride, chloromycetin and terramycin hydrochloride. These cases occur with sufficient frequency that the Council on Pharmacy and Chemistry[3] of the A. M. A. requested in April, 1951, that the labeling of the aforementioned drugs include a warning statement. This was to the effect that, while these antibiotics are highly bacteriostatic for many bacteria, susceptible bacteria may be suppressed and encourage replacement by Monilia and other yeast like organisms of the normal and abnormal bacterial flora. Because of the apparent prevalence and the possibility that thrush may be overlooked, it appeared of interest to present my experience with four cases of the disease and to discuss its etiology, diagnosis and treatment.

Case One

The first case is of a five-year-old girl who was first seen on March 2, 1953, because of a grippe-like condition. The physical examination revealed a rather sick girl lying in bed and complaining of aches and pains in the muscles and joints. The temperature was 103.4. Muscles, generally, were tender. The physical examination was otherwise negative. Laboratory examination revealed the hemoglobin to be 80%, the red blood count 4,110,000 and the white blood count 10,900. The blood smear showed some achromia. The differential was 32% polymorphonuclear neutrophils, 65% lymphocytes and 3% eosinophiles. The sedimentation rate was normal and the urine was negative. The patient was given 50 mg. of terramycin every six hours for three days and then the child began to complain of a sore throat and glands in the neck. Examination of the throat, at this time, revealed a pustular and follicular formation of the mucous membranes of the mouth and throat with white patches on both tonsils. A moderate number of cervical glands were present. A direct smear of the lesions of the oral cavity was taken and a culture on Sabouraud's media was made. Microscopic examination of the smear and culture, the latter examined after twenty-four hours was allowed for growth, revealed the organisms to be Monilia albicans. The oral pH was between 5.5 and 6.0. Treatment consisted of omission of terramycin and the use of alkalol as an alkaline mouthwash and gargle. Within twenty-four hours following this therapy the oral cavity had practically cleared up.

Case Two

Case two was a forty-three-year-old male who was admitted to the hospital on February 10, 1953, with the complaint of a severe cough with profuse expectoration and aphonia of three or four weeks' duration. The physical examination revealed a well developed and somewhat obese man who was coughing and expectorating profusely. He could not speak above a whisper. His temperature was 100. The examination was negative except for that of the chest and sinuses. There was tenderness over both frontal and maxillary sinuses which transilluminated rather poorly. The chest revealed wheezing rales in both lungs with increased breath sounds at both bases posteriorly, especially the right. The diagnosis was bronchiectasis, acute laryngitis and acute sinusitis. Laboratory studies revealed the hemoglobin to be 86%, the red blood count 4,260,000 and white blood count 6,450. The blood smear was normal and the differential showed 75% polymorphonuclear neutrophils, 24% lymphocytes and 1% eosinophiles. The sedimentation rate was elevated being 50 mm. in one hour. The urine was negative. X-rays of the chest revealed findings consistent with bronchiectasis, especially of the right base. X-rays of the sinuses showed evidence of acute sinusitis. Cultures of the sputum and sensitivity tests were done and found to be highly sensitive to penicillin. The treatment consisted of the administration of 400,000 units of penicillin intramuscularly twice a day. In addition, inhalational therapy with aerosol penicillin in doses of 100,000 units three times daily, were given. On the fourth day following the inception of this combined therapy the patient developed a sore throat and tongue. There were white patches on the tonsils and follicular involvement of the remainder of the oral cavity. The tongue was red and cracked. Microscopic examination of direct smears and cultures on Sabouraud's media revealed the organisms to be Monilia albicans. The oral pH was found to be between 5.5 and 6.0. Treatment con-

* From the Henrietta Goodall Hospital, Sanford, Maine.

sisted of the omission of penicillin and the use of alkaline mouthwashes and gargles. Multi-vitamins were also given parenterally. Under this regime the oral cavity cleared up in three days. It is interesting to note also that the expectoration, cough and other findings in the chest as well as those referable to the sinuses cleared up during this form of combined parenteral and inhalational penicillin therapy. The patient became symptom free and was discharged after a hospital stay of twelve days.

Case Three

Case three was a six-year-old boy who complained of severe pain in the right ear which had awakened him in the middle of the night. The physical examination revealed a very sick, well developed and nourished boy lying listlessly in bed. The temperature was 101.2. Examination of the right ear showed a reddened tympanic membrane with a small perforation which was draining slightly. The external auditory canal was moist. The left tympanum was dull. The nose was obstructed due to congestion and had been so for the past two weeks. The tonsils were markedly enlarged and infected and there was extensive bilateral cervical lymphadenopathy. The examination was otherwise negative. The diagnosis was acute right otitis media with perforation, acute tonsillitis, coryza with nasal obstruction and possible infectious mononucleosis. Laboratory studies revealed the hemoglobin to be 74%, red blood count 3,810,000 and white blood count 12,200. The blood smear was normal except for some achromia. The differential showed 67% polymorphonuclear neutrophils and 33% lymphocytes. The urine was negative. Before admission to the hospital, treatment had consisted of the daily intramuscular injection of 200,000 units of penicillin, 200,000 units of oral penicillin four times daily, and neosynephrin .25% solution was used as nose drops. This treatment was continued for three days and in spite of it, the temperature continued upwards to 103.4. However, the pain in the right ear and drainage diminished and the ear appeared better. Penicillin was discontinued and 100 mg. of terramycin, a wider spectrum antibiotic, was given every four hours for two doses and then 50 mg. every six hours. Because this boy became increasingly listless and the temperature was 103.2, he was admitted to the hospital. At this time a blood culture was taken which proved to be negative. The heterophile antibody reaction showed a positive result in dilutions up to 1:448. The sedimentation rate was elevated being 91 mm. after one hour. The patient was given one dram of sugra-cillin every four hours, gantrisan nasal solution in amounts of three or four drops also was given every two hours. Within twenty-four hours the temperature had dropped to 101. On the second day of his hospital stay, he began to develop a follicular and pustular formation of the mucous membranes of the mouth and a white membrane on both tonsils. The temperature was now about 100. Direct smears and cultures on Sabouraud's media revealed Monilia albicans. The white blood count had dropped to 5,500. The blood smear was normal and the differential showed 44% polymorphonuclear neutrophils, 53% lymphocytes, 2% eosinophiles and 1% monocytes. A mouth wash and gargle of alkalol was started, and within twenty-four hours the oral cavity began to clear. Forty-eight to seventy-two hours after start of therapy, the mouth and throat were entirely free from lesions. The lymphadenopathy had practically disappeared. The white count was now 6,250. The sedimentation rate was elevated to 44 mm. in one hour. He was discharged home from the hospital after eight days in an improved condition.

Case Four

Case four was a thirty-one-year-old female who complained of an increasingly severe cough, sore throat and a heavily coated tongue, which bled in some areas, of four weeks' duration. She had been ill with what appeared to be a virus infection and had been receiving penicillin parenterally throughout this time. The physical examination revealed an obviously sick woman who was well developed and nourished. The temperature was 100.2. The examination showed multiple follicles and pustules in the throat and mouth. The tonsils were covered by white patches and the tongue was heavily coated and bleeding in certain parts. Bilateral cervical lymphadenopathy was present. The urine was normal. The hemoglobin was 84%, the red blood count 4,210,000, the white blood count 6,550 and the blood smear was normal. The differential showed 62% polymorphonuclear neutrophils and 38% lymphocytes. Smears and cultures of the mouth on Sabouraud's media revealed Monilia albicans. A diagnosis of oral thrush was made. Treatment consisted of omission of penicillin and the use of sodium perborate mouthwashes and gargles. Under this regime the mouth, throat and tongue began to clear in twenty-four hours and was complete in several days. The temperature returned to normal. In addition, multiple vitamins were also given.

Etiology

The causative organism of oral thrush is Monilia albicans which is frequently found in the normal mouth. It appears that the use of antibiotics suppresses the causative agent of infections allowing other bacteria which are usually saprophytic to become pathogenic. This mechanism is possibly due to the lowered resistance of the mucous membranes of the oral cavity as well as other organs creating a "locus minoris resistentiae" to the extent of, in some

instances, allowing Monilia to flourish. When one group of organisms is suppressed, others that are present may multiply more rapidly in normal tissue and cause a super-infection. I have observed the oral pH in this condition to be 5.5 to 6.5. The normal habitat for Monilia is in an acid medium of a pH of about 5.8 to 6.8.

Diagnosis

The diagnosis of oral thrush or Monilia albicans infection of the oral cavity is comparatively simple and is made by obtaining a smear from the throat and mouth. Moniliasis or oral thrush should be considered if a patient complains of a sore throat and sore mouth after the use of antibiotics and the examination reveals tiny pustules with a red or coated tongue and white membranes on the tonsillar areas. The aforementioned procedure should be instituted for diagnosis. An additional adjunct is to culture the smears on Sabouraud's media. If growth of organisms occurs in twenty-four to forty-eight hours and the microscopic examination reveals Monilia albicans a diagnosis of oral thrush can be made.

Treatment

The treatment for this condition is comparatively simple. The offending antibiotic must be omitted. In addition, the changing of the oral pH from that of acidity to one of alkalinity is valuable and soothing. This is accomplished in oral thrush by the use of alkaline mouthwashes and gargles such as of sodium perborate, alkalol, and sodium bicarbonate solutions. These alkaline solutions change the oral pH from acid to alkaline, and apparently inhibit the growth of Monilia, creating a habitat in which they are non-viable. Adequate vitamin therapy should also be given.

Summary

This paper presents four cases of oral thrush which is relatively frequent following the use of antibiotics. Its etiology, diagnosis and treatment are discussed. The diagnosis is made by smears and cultures obtained from the mouth and throat in cases complaining of sore throat and mouth following antibiotic therapy. The cause is an overgrowth of Monilia albicans. The determination of the oral pH and the finding of an acid saliva are additional adjuncts. The treatment includes the omission of the offending antibiotics and the use of alkaline mouth washes and gargles.

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EFFECTS OF ANTIBIOTICS ON BLOOD CLOTTING MECHANISM

E. D. Humphreys, M. D., M. A. Webber, M. D., and P. R. Briggs, M. D.*

The civilized world has become adjusted to the era of antibiotics. It is a well known fact that at least some of these drugs are not new but were used thousands of years ago by healers of all types in many disguised concoctions and appliances. Those miracles, which were said to have been created, were really due to antibiotics in their natural and crude forms — today we have isolated various substances in the pure form and "dub" them antibiotics or "miracle drugs." The early healer neither gained fame nor fortune with his known cures, as good communication and modern advertising were unavailable in that era. Herbs and molds were scoffed at as "quackery" but the same results were brought forward as definite cures which might be summed up in the adage that the "proof of the pudding is in the eating." The early drugs were not in general use and available to all, and did not seriously effect the population of the entire world.

The purpose of this article is to call attention to the effect of antibiotics used promiscuously and otherwise, on the clotting of blood. It is an age-old rule that excess in anything is detrimental to the human organism.

Fifteen years ago colds and minor physical ailments were treated symptomatically—today our patient demands a cure in a few hours and insists on continuing his daily duties. We follow surgical operations, which a few years ago were regarded "clean" with prophylactic antibiotic drugs, just in case there is an incipient infection. Confinement cases which are instrumental are all given a "shot" or two of penicillin daily—occasionally streptomycin or sulfa is added as a precaution. It makes one shudder to think of the abuse of these novel drugs and to wonder if we have lost all sense of sterility and confidence that we en-

* From the Scott-Webb Memorial Hospital, Hartland, Maine.

joyed a few years ago. Definitely we are wrong in using prophylactic drugs unless gross contamination has been present. Mother Nature exists today as well as she did many years ago—she needs help but not abuse.

Cognizance of the fact that Vitamin K, which is so necessary for the clotting of blood, is synthesized in the body and more specifically in the intestines by the bacterial flora contained therein, it is natural to assume that interference with the life of these bacteria will seriously effect Vitamin K production.

Recently it was brought to our attention that patients admitted to our hospital for nose and throat surgery had their coagulation times markedly elevated. The above led to a more thorough questioning as regards antibiotic therapy during the past few years. Lacking facilities to measure Vitamin K but administering it with gratifying results has led us to assume that Vitamin K deficiency has resulted in effecting the coagulation time.

Providing that antibiotics do effect Vitamin K synthesis it is reasonable to assume that phlebothrombosis, thrombophlebitis and coronary infarction should be on a decrease rather than on an increase as is generally believed due to therapeutic and sometimes promiscuous use of our miracle drugs.

It has long been known that in infectious hepatitis, cirrhosis and various liver diseases, prothrombin time is elevated and the tendency to hemorrhage is increased. Further observation reveals in reviewing our records, no evidence of a single case of acute coronary infarction in cirrhotic liver patients, and no notations of phlebitic pathology in those whose peripheral vascular circulation contains no stasis. Coronary occlusion and peripheral vascular subjects for the most part give no history of intensive antibiotic treatment.

We have reasoned further and confirmed by laboratory methods that antibiotics in the pregnant woman tend to elevate the prothrombin time and hence have routinely administered Vitamin K to every other case noting absence of hemorrhagic disease in the newborn and excessive bleeding in the mother. Control cases not given Vitamin K had a higher percentage of hemorrhage—one in six hundred had hemorrhagic disease in the infant and a much higher percentage of jaundice of the newborn; statistics which are available will later be submitted for publication.

After a study of several years of pros and cons, our staff agreed to give Vitamin K routinely to all pregnant mothers.

In doing coagulation time the slide and capillary tube methods were used whereas prothrombins were checked by Quick's procedure, platelet counts were done and found normal.

Aureomycin, streptomycin, and the sulfa drugs were the greatest offenders (apparently) from the histories noted — penicillin treated cases showed the least effected coagulation times although it too seemed to cause a moderate increase.

The general overall increase in prothrombin time was much lower than that accepted for anti-coagulant drug therapy maintenance but was appreciably elevated to the extent that it is felt by our group that more intensive study should be made on the effect of these drugs in their intermittent and protected use.

The normal coagulation time of 2 to 6 minutes in our series of cases ranged from 7 minutes and 20 seconds up to 10 minutes and 20 seconds and the prothrombins varied from 15.4 seconds to 20.4 seconds with a general average of 19.4 seconds.

Vitamin K administered parentally and daily in every case brought coagulation and prothrombin times to a normal level.

It should be further noted that immediate administration of antibiotics effect the prothrombin time very little, if any. However, long use of various molds and sulfa drugs do have a detrimental effect on the blood clotting mechanism.

In our small institution, Vitamin K is administered routinely in cases receiving long antibiotic therapy providing the coagulating and prothrombin times warrant it. Vitamin K is further given for excessive Dicumerol reactions whereas blood is contributed for excessive Heparin effect. It is routine that all surgical cases have a prothrombin preoperative or coagulation time, or both, performed before they enter the operating room. All intestinal resections prepared with sulfa derivatives, aureomycin, or streptomycin alone or in combination are given Vitamin K preoperatively.

In checking coagulation, a prothrombin level was determined in every case and results were elevation of both. History of recent antibiotic therapy was obtainable and in most instances showed prothrombin increase. This treatment was either the prolonged or intermittent administration of antibiotic drugs.

Conclusion: Modern antibiotic drugs definitely effect the prothrombin time and interfere with the clotting of blood when given over a period of time. The reason for this interference is often due to the demise of intestinal flora which normally synthesize Vitamin K. Coronary heart disease and peripheral vascular disease are effected by Vitamin K deficiency resulting from frequent and promiscuous use of antibiotics in modern medicine. Intensive antibiotic therapy cases should either be frequently checked as regards coagulation, prothrombin time or both, in lieu prophylactic Vitamin K should be given. All intestinal resections should be given Vitamin K routinely in adequate doses preoperatively.

Liver disease apparently interferes seriously with Vitamin K production — hence a careful evaluation of the patient should be made to rule this out. Short

summaries of findings and hypothetical advances have been presented in the hope that our colleagues, who have more facilities at their command, will bear in mind not only the harm that may be acquired but the apparent slow progressive good the antibiotics may present in a few years to come in their relation to peripheral vascular disorders. This paper has been written without reference to any specific authors or researches and is entirely our own observation, subject as we know to criticism and possible pitfalls.

AN UNUSUAL SURGICAL COMPLICATION FOLLOWING SUBTOTAL GASTRIC RESECTION — CASE REPORT*

William F. Mahaney, M. D., Saco, Maine

A fifty-eight-year-old white female was admitted to the hospital because of crampy abdominal pain. Ten months previously the patient had had a subtotal gastric resection at another Hospital with an anticolic Hofmeister type of anastomosis, choledochostomy, and appendectomy for a duodenal ulcer with obstruction. Her postoperative course was uneventful except that on her 8th postoperative day she developed pain in the right upper quadrant of her abdomen and there was free drainage of bile around the "T" tube. A cholangeogram on the 19th postoperative day was interpreted as normal except for a markedly dilated and capacious transverse duodenum. She was discharged on her 23rd postoperative day apparently well, taking and retaining six feedings daily.

Three months later this patient was readmitted to the same hospital complaining that for the previous month she had been nauseated, vomiting and losing weight. An upper G.I. series revealed a good functioning gastro-jejunostomy. One week later she was explored and a partial obstruction of the transverse colon due to postoperative adhesions was found. These were relieved, as were the patient's complaints, and she was discharged on the 10th postoperative day.

In six months the patient was again readmitted to this hospital with the complaints of nausca, vomiting, weight loss and crampy abdominal pain, which pain apparently followed each bowel movement. Since her operation nine months before her weight had declined gradually from 144 pounds to 87 pounds. X-rays during this admission showed no evidence of trapping in the proximal loop and no evidence of marginal ulcer. The patient was discharged on her 12th hospital day unimproved.

Two days later she was admitted to another hospital with the same complaints. The only additional information obtained was that the patient was able to eat breakfast and lunch but vomited everything about 4 p. m. and this was projectile in type. Physical examination showed an emaciated, weak, white female who appeared much older than her stated age. She weighed 87 pounds. Except for the emaciation and the following abdominal findings, examination was negative. There was a well healed left upper rectus incision. In the left upper quadrant there was a large, soft, movable, non-tender mass through which peristaltic waves could be seen and borborygmi could be heard. The Red Blood Count was 4.0, Hemoglobin 79%, White Blood Count 6,600, 70 P., 26 L., 2 E. , and 2 M. The urine was negative. Gastric analysis showed no free HCL.

The patient was supported by I.V. fluids and blood and on her 4th hospital day she was operated upon. Exploration of the abdomen was negative except for a redundant large bowel and a liver which appeared small and grayish in color. The stomach had been resected high and the distal loop appeared negative. The proximal loop, however, was markedly dilated throughout its entire length, the wall was greatly thickened, and the whole loop was covered with fibrin. None of the contents of this loop could be forced into the stomach. In view of the patient's debilitated condition and the achlorhydria a jejuno-jejunostomy was performed. The patient improved dramatically. The Levin tube was removed on the 2nd postoperative day and her diet was built up rapidly. She had no abdominal pain nor vomiting and was discharged three weeks postoperatively, improved.

When last seen one month ago, three and one-half years following her last operation, her weight was 150 pounds, she was able to eat any and all foods, was free of complaints, and was leading a normal life.

Prior to the jejuno-jejunostomy this patient had been filling her proximal loop daily until the pressure became so great that the obstruction at the anastomosis was overcome with the forceful ejection of the contents into the stomach and the resulting projectile vomiting. She was slowly starving because very small amounts of her caloric intake were passing into the distal loop.

A jejuno-jejunostomy is not the procedure of choice in these cases of mal-functioning gastro-

* Presented at M. M. A. Centennial Session Clinic Series, Maine General Hospital, Portland, June, 1953.

jejunostomy. Rather, it is preferred to take down the anastomosis and make a new one because of the danger of a marginal ulcer being formed if the alkaline biliary and pancreatic juices are not allowed to travel over the anastomosis and neutralize the acid of the stomach. This is a formidable surgical operation, however, and this patient could not have tolerated it in her poor preoperative condition. If she had developed an ulcer at a later date, which she apparently is not doing, she would have been in better condition to withstand the operation, or a vagotomy would have been indicated.

This complication of a mal-functioning gastro-jejunostomy is not rare. However, this case is being presented because it was impossible to prove a malfunctioning gastro-jejunostomy by X-ray and again points out the limitations of any laboratory procedure. The first indication of difficulty in the proximal loop was shown in the cholangeogram following the first operation, which revealed a dilated transverse duodenum. This, followed by vomiting, crampy abdominal pain, and weight loss, coupled with a soft mass in the left upper quadrant of the abdomen where the gastro-jejunostomy lay, visible peristalsis, and borborygmi, all mean intestinal obstruction in spite of repeated negative X-ray findings.

VAGINAL HYSTERECTOMY

Eben T. Bennet, M. D., Portland, Maine

Vaginal hysterectomy is being performed with ever greater frequency by well-trained gynecologists throughout the country. This increased popularity is richly deserved. However, many men still restrict its use to cases of third degree prolapse of the uterus. It is our feeling that vaginal hysterectomy should be carried out almost routinely in conjunction with vaginal plastic procedures, unless there exists a definite contraindication.

It is in the field of vaginal hysterectomy without repair, however, that the greatest progress remains to be made. It is our feeling that many hysterectomies now being done abdominally could and should be done from below. If more gynecologists were aware of the safety, ease and wide applicability of vaginal hysterectomy they would choose this route far more often.

A uterus not larger than a three months pregnancy can be easily removed from below. Accordingly, a large percentage of hysterectomies for small uterine myomata or for functional bleeding may be performed vaginally. We do not attempt to use this route if the uterus is larger than a three months pregnancy, or if it is adherent, or if we believe that the patient has endometriosis. Previous pelvic surgery is not an absolute contraindication, but should make one wary. With increasing experience the operator may be more liberal in his choice of the vaginal approach.

It is unnecessary that there be any descensus of the uterus in order to perform vaginal hysterectomy. In actual practice most uteri, especially those which have borne children, come down nearly to the outlet on the application of moderate traction. If they do not come into easy reach at the beginning of the operation, they nearly always will do so after the utero-sacral and cardinal ligaments have been cut on each side.

This report is based on a series of seventy-nine vaginal hysterectomies performed by the author and the resident staff during his year as resident in gynecology at the Women's Hospital in Baltimore, July, 1950 through June, 1951. Forty-eight of these were performed in conjunction with vaginal plastics; thirty-one were carried out for a variety of pelvic conditions, chiefly myomata and functional bleeding. Sufficient time has not yet elapsed for a complete follow-up on this series; however, to date the results have uniformly been more than satisfactory. There have been no mortalities and no complications. All of the cases were done by members of the house staff, at all levels of resident training. We have become progressively more enthusiastic about the procedure. Vaginal hysterectomy alone usually requires from twenty to thirty minutes; a difficult case may consume up to one hour, depending upon the skill and experience of the operator. All patients are ambulated on the day after operation; they are usually discharged from the hospital seven to eight days post-operative.

The rationale for performing total hysterectomy without repair vaginally rather than abdominally in suitable cases is as follows:

1) The operation is shorter in duration and therefore easier on the patient.
2) No matter how obese the abdominal wall, the vaginal mucosa is always thin.
3) Post-operative adhesions, gas pains, and the possibility of post-operative intestinal obstruction are less when the vaginal route is utilized, because there is less handling of the small bowel.
4) The patient is not left with an abdominal scar. Also there is no possibility of wound disruption or incisional hernia.

5) The ureters are farther away from the closest application of the clamps than they are in abdominal hysterectomies, and are in less danger of being injured.

As a result of all the above, patients recover more rapidly and are more comfortable.

In essence our technique for removal of the uterus is that of Heaney and his associates. We have employed a number of modifications, however, which we think have been helpful.

Pentothal, nitrous oxide-oxygen and curare are our anesthetic combination of choice; occasionally the pentothal is supplemented by a little ether. Spinal is quite satisfactory.

The patient is draped in a high lithotomy position with moderate Trendelenburg. A weighted posterior retractor is inserted; it remains in place during the entire operation. This keeps the sides of the vagina apart and usually provides all the lateral retraction that is needed. The labia, if redundant, are sewed back.

The anterior lip of the cervix is seized with a long Lahey clamp and pulled forward. Throughout the operation firm traction outward is maintained on the cervix; this reduces back-bleeding. Two c.c. of pitocin are injected into the para-cervical tissues. An anterior vaginal retractor is inserted. The vaginal mucosa overlying the cervix is now incised transversely in the region of the bladder fold, the incision extending around the anterior half of the cervix. The vaginal mucosal flap is picked up with strong forceps, and by sharp dissection the bladder is separated from the cervix and fundus and pushed upward. The vaginal mucosa and bladder are thus dissected away together. When the proper plane of cleavage has been attained the bladder may be separated from the cervix and peritoneum overlying the fundus in an almost effortless manner with the index finger; the peritoneal surface has a smooth, slippery feel. An anterior retractor is now placed to hold back the bladder and anterior vaginal mucosa.

A second long Lahey clamp is now placed on the posterior lip of the cervix and the cervix is pulled strongly upward. The posterior vaginal mucosa is incised, completing the circumcision of the cervix. By sharp scissors dissection the posterior mucosal flap is dissected away and the posterior culdesac entered. The mucosa should not be dissected back farther than necessary before the peritoneum is opened. A Heaney retractor is now inserted over the hanging retractor, and downward traction maintained on it. A small pack is now inserted over the posterior retractor into the peritoneal cavity and left in place. This absorbs any blood which might tend to run backward into the abdomen during the operation, and keeps the bowel out of the way.

Using Heaney clamps, the utero-sacral and cardinal ligaments together are now grasped in one large bite. Usually the left side is taken first. One jaw of the clamp is slid behind the utero-sacral ligament so that it is intraperitoneal; the other jaw of the clamp is then swung forward to the desired height and the clamp is closed. The pedicle is cut away with heavy scissors, leaving a generous margin of tissue in the clamp. The pedicle is then suture-ligated singly with a Heaney mattress stitch of #2 chromic catgut, and the suture is held, being marked by a straight clamp which is allowed to dangle behind the edge of the hanging retractor. The right utero-sacral-cardinal ligament is similarly treated.

The uterus will now come forward a good deal more. If necessary, the bladder is pushed up still farther, and the anterior culdesac is visualized and entered with a snip of the scissors. One should never attempt to enter the anterior culdesac until he can plainly see the peritoneal fold. A second Heaney retractor is now placed within the anterior culdesac, and the anterior retractor formerly used is withdrawn.

The left uterine artery pedicle is now clamped, cut away, singly suture-ligated and cut. Both posterior and anterior jaws of the clamp should include peritoneum on this bite, although occasionally, with a larger uterus, the anterior peritoneum will not be included until an extra bite higher up is taken. The right uterine artery pedicle is similarly treated.

If it should prove difficult to enter the peritoneal culdesacs at first, it is best not to be too persistent. The successive bites of tissue described above may usually be taken extra-peritoneally with perfect safety, provided that the bladder and rectum are known to be out of the way. We have never yet been unable to enter one culdesac easily by this stage of the procedure; when the peritoneum has once been entered the rest is easy. Nearly always it is easy to enter posteriorly at the outset and proceed in the orderly manner outlined above.

It is now usually possible to deliver the uterus posteriorly. We do this with tenacula on the fundus. If the uterus will still not deliver, another bite on the lower broad ligament may be taken, cut away, and suture-ligated on each side.

If the uterus will not deliver now, the cervix is amputated with a knife as high up as possible. If the fundus still does not deliver, morcellation is carried out. This consists of serial excision of wedge-shaped pieces of uterus from the presenting central portion of the specimen. It is a bloodless affair and is very easy to accomplish.

When the fundus has been delivered, the utero-ovarian pedicle (i.e., the remainder of the broad ligament) is clamped on both sides and the uterus is cut away. It is routinely cut open and the endometrium examined. The tubes and ovaries are palpated and inspected. If the adnexa are to be removed, the infundibulo-pelvic ligaments are clamped and the ad-

nexa cut away. Tying the utero-ovarian pedicles first may facilitate exposure for this step. When the adnexa have been dealt with, the pedicles are doubly suture-ligated and the ties are held by a curved clamp, which is allowed to dangle.

The broad ligament on each side is now examined for bleeding points. Small ball sponges or fluffs held in a long forceps or clamp are ideal for sponging in this situation and, in fact, throughout the operation.

When hemostasis is assured the uterosacrals are plicated. By inserting the index finger under the posterior vaginal mucosal flap one can easily ascertain the degree of enterocele, if any. If an enterocele sac is present it is dissected free and excised. A corresponding wedge-shaped section of mucosa is then removed, and the edges of this wedge re-approximated with a stitch or two. Whether there is an enterocele or not, the utero-sacral ligaments are prophylactically plicated from one side to the other and from below upward with from one to three or more sutures. Each of these bites into each utero-sacral and into the posterior peritoneum between. It is tied; gentle traction on it delineates the ligaments and facilitates the placing of the next suture.

Two half-length suspending sutures are placed next, one on the left and one on the right. Each of these bites into the anterior vaginal mucosa at its lateral corner, the anterior peritoneum laterally, the round ligament, the uterine artery pedicle (this bite is optional—we often omit it), the utero-sacral-cardinal pedicle, the posterior peritoneum laterally, and the posterior mucosa at its lateral corner. The bites in the round ligament and the utero-sacral-cardinal ligament are placed proximal to the ligated stump; this assures an adequate blood supply to the suspending portion of the ligaments and tends to extra-peritonealize the stumps. The utero-sacral bite is taken at the top of the plication. This suspending suture is placed on each side and held with a long curved clamp. The marking sutures on the various pedicles are cut away as they are included in the suspending suture.

Two or three additional sutures are now placed and held, uniting anterior mucosa, anterior peritoneum, posterior peritoneum and posterior mucosa.

The suspending sutures are tied, followed by the central mucosa-closing sutures. The operation is now completed. A posterior colporrhaphy is done if indicated. A vaginal pack is inserted for one or two days, and a Foley catheter may be left in place for the same length of time.

A few more words might be inserted concerning morcellation of the uterus. This procedure is often helpful or necessary in the removal of larger uteri. Surprisingly enough, it is simple and quite bloodless.

After the utero-sacral-cardinal and uterine pedicles have been tied, an attempt is made to deliver the fundus posteriorly. If it does not deliver easily, the abdomen is explored digitally. If the uterus is free and merely large, the cervix is amputated as high as possible within the freed position. Tenacula are applied anteriorly and posteriorly, and delivery is attempted again. If the fundus still will not deliver, a wedge-shaped piece of uterus is excised from the middle of the presenting specimen with the knife, and delivery attempted again. If firm traction is maintained, there will be no bleeding. If necessary, further wedge-shaped bits of the uterus are removed. The operator must be careful to keep his morcellation in a central area of the presenting portion of the uterus, and not to let the uterus slip away and back into the pelvis. It is not difficult to grasp the uterus again after it has slipped, but back-bleeding is prone to occur which obscures the field temporarily. Often a "key fibroid" can be found which can be morcellated to permit delivery of the uterus. Eventually the upper portion of the broad ligament will be visualized and can be clamped, and the rest of the operation is simple.

Occasionally in a difficult case it may be hard to get optimal exposure for placing the suture-ligatures. It is sometimes helpful in such an instance to push gently inward and medially on the tenacula which are on the cervix. This maneuver has two drawbacks—it allows back-bleeding to occur, and it can result in a tear of the broad ligament unless carefully done; at times, however, it is invaluable.

Proper instruments are essential to this operation, and it should not be done without them. Those devised and used by Heaney are eminently satisfactory; the most important of these are the long, thin narrow retractors which are placed intra-peritoneally anteriorly and posteriorly. Curved needle-holders are often helpful when working in a narrow space, but are not essential. Long forceps with teeth are useful for picking up various structures and for sponging. Exposure is usually very good, and bleeding points, for example, are quite easy of access. The entire operation is quite atraumatic, and patients recover with rapidity and comfort.

The widening field of application of vaginal hysterectomy has been discussed. Our technique of vaginal hysterectomy has been outlined. The rapidly increasing popularity of this procedure is evidence of greater realization of its worth. Characteristically, the more often one does this operation the more enthusiastic he becomes over it, and the greater its usefulness in his hands. It is safe to predict that the next decade will see a still more marked increase in the frequency with which vaginal hysterectomy will be performed by gynecologists.

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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EDITORIAL SECTION

Death and Taxes

Benevolent governments of the people appropriate on the authority of legislative bodies generous sums of tax money to protect the health of the public and to study and control diseases which rank near the top as the causes of death. National, State and local governments support public health measures and approve of the application of tax money for these purposes. The Federal Treasury pays for certain services directly from Washington. And it pays for other services by grants-in-aid to State programs, programs which are developed by State Agencies and which are scrutinized by the Federal Bureaus concerned, and approved by the Chiefs of the Bureaus.

It has been the policy for many years for the Federal Government to approve State programs for Maternal and Child Health. With the approval of the Children's Bureau in Washington, the sum of money appropriated by the State Government to implement its State program is matched by an appropriation from the Federal Treasury. The State then has in hand money enough to finance its program.

Maternal and Child Health has been first and last one of the favorite subjects for the appropriation of tax money. Congress has always seemed interested in measures to guard maternal health and to reduce infant mortality. State Legislatures and State Public Health Departments have shared in this human endeavor to save mothers and babies.

Our State of Maine has sponsored programs along these lines. In coöperation with the State Department of Health the Maine Medical Association has organized committees to study and remedy the mortality rates of mothers and newborns. The Committee of our State Association has been known as the Committee on Maternal and Child Health. And under the able leadership of various Chairmen has brought about striking improvements in mortality rates.

The improvement has been more gratifying with the maternal mortality rates than with the infant mortality rates. During a period of ten years, 1940 to 1950, the maternal mortality rate was reduced from a figure of 4.0 per 1,000 live births to a figure of 0.6 per 1,000 live births. Before 1940, the rate was considerably higher. The impetus for the attack on the high rate was generated by our State Committee with Dr. Roland B. Moore as Chairman.

The attack on the Infant Mortality has been less effective than that on the Maternal Mortality. One obstruction to progress is the general size of the problem of Infant Mortality.

Here in Maine our State Committee has pondered the subject at many meetings and has offered recommendations which the House of Delegates have approved. In 1952, the committee reviewed especially the mortality rate of prematures and undertook to initiate a program to reduce the rate. The program, as a first step, outlined a plan whereby all premature births should be reported as soon after birth as possible to the Children's Bureau in Augusta. In order to execute the plan it was decided to have forms printed in good quantity and to send a pad of the forms to all the doctors on the accepted mailing list in the office of the Department. It was hoped that the early reporting of premature births would enable the Health Bureau to offer assistance in the care of the prematures. The assistance would be available by teams of doctors and nurses who had received special training in the care of these infants. The forms were forwarded and the reports have been returned to a gratifying extent. From January 1st to July 1st, 1953, a total of 468 premature births have been re-

ported. It is too early to estimate the final number and too early to calculate a mortality rate. It is not too early, however, to declare that the plan to encourage early reporting has proved effective. The next step will be to perfect the plans for care of the babies.

One disquieting note has reached the ears of the committee from different individuals. The committee has been charged with extravagance in spending the taxpayers' money for the reporting forms. It has been told that the forms were dumped promptly in the wastebasket and more tax-dollars were going down the drain thereby. The committee has stated that the list for mailing includes all doctors who are carried on the Maine Medical Association roster as practicing physicians. To revise the list to exclude doctors over a certain age and specialists and practitioners who refrain from handling obstetrical cases would not only entail some expense but would also create errors and produce complaints from those left out. Inasmuch as a pad of twenty sets of forms cost but 10 cents, it seems doubtful that the entire cost of printing and mailing is wasteful and extravagant if the life of one premature is saved. The State Association is mindful of high taxes and it is mindful, also, of the high death rate of infants in our State. We believe that the committee took a justifiable step in carrying out its program.

Regional Medical School

Governor Cross, speaking at the opening exercises of our Centennial Celebration in June, reported that plans were developing for a Six-State Conference to discuss the establishment of a new Medical and Dental School in New England.

As we move into the autumn, symptoms for calling this conference become more acute. The Massachusetts Legislature created a commission, a Recess Legislative Committee, to call a meeting for the study. Delegates from the New England States have been invited to the conference which will be held in Boston during October.

Recently, this month, in Manchester, Vermont, the House of Delegates assembled from the New Hampshire and Vermont Medical Societies in closed session and discussed the possibility of providing a Tri-State Medical School to be supported equally by three States; Vermont, New Hampshire and Maine. Following the discussion they proposed, "giving consideration to enabling legislation" in each of the three States for a medical school. At this meeting it was disclosed that such a school should be established in one of these States; Maine, New Hampshire or Vermont.

The President and Council of our Maine Association have expressed on many occasions an interest in the establishment of a medical school. A State Committee has been appointed by Dr. Nickerson as follows; "Medical School for Maine Committee:"

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It is our understanding, as we go to print, that Doctor Small will attend the conference in Boston sponsored by the Massachusetts Recess Committee and present facts and figures concerning the situation in Maine. Vermont and New Hampshire delegates, doubtless will present their arguments for the proposed school.

Now, if one reviews the opportunities for medical education in Maine, New Hampshire and Vermont, one finds that Maine is the only one of the three without opportunities within the borders of the State. Vermont has an active and progressive school in Burlington; a school which has trained many a man for practice in our State of Maine. New Hampshire offers at the Dartmouth Medical School in Hanover, two years of training and has likewise started on the medical way a good many men who have settled in Maine. Maine, as we well know, at present hasn't any facilities for academic training in the profession of medicine.

It seems as though the time was ripe for our committee to hold a meeting soon after Doctor Small's return and study carefully all proposals which have been made. The Governor has expressed his interest in the idea; the Officers of our Association have indicated their support for the plan. Does this not encourage the entire membership to think seriously about a school in Maine and to unite on a program?

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COUNTY SOCIETY NOTES

Franklin

Dr. Beegel of Lewiston, was guest speaker at a meeting of the Franklin County Medical Society held in Farmington, September 14, 1953. Dr. Beegel's subject was Management of Hip Fractures.

At the business meeting, Dr. Hays G. Bowne and Dr. David W. Marsters were elected to membership.

PAUL E. FLOYD, M. D.,
Secretary.

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, September 9, 1953. There were twelve members present.

The speaker of the evening was Dr. Charles McEvoy of Bangor, who gave a very interesting talk on Tumors of the Thyroid.

ARTHUR M. JOOST, JR., M. D.,
Secretary.

Kennebec

Dr. Robert T. Monroe of the Peter Bent Brigham Hospital, Boston, was guest speaker at the spring meeting of the Kennebec County Medical Society, which was held at the Augusta House, Augusta, May 21, 1953. His subject was Some Remarks on Geriatrics.

A. H. MORRELL, M. D.,
Secretary.

New Members

Franklin

Hays G. Bowne, M. D., 9a Main Street, Farmington, Maine.

David W. Marsters, M. D., Strong, Maine.

Kennebec

Willard E. Cummings, M. D., Veterans Administration, Togus.

Jon Sheng Tchao, M. D., Waterville, Maine.

Knox

Hugo Hochschild, M. D., North Haven, Maine.

COMING MEETINGS

Maine Medical Association, 1954 Annual Session, The Samoset, Rockland, Maine, June 13, 14 and 15. Dr. Ralph C. Stuart, Guilford, Maine, Chairman, Scientific Committee. Esther M. Kennard, 142 High Street, Portland, Maine, Secretary.

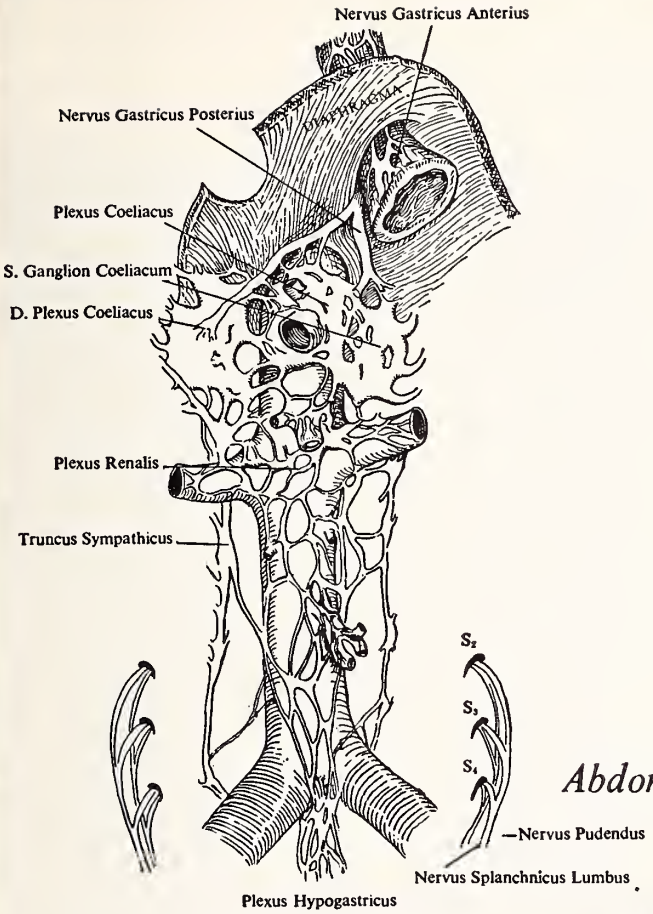
American Medical Association, Dr. George F. Lull, 535 North Dearborn Street, Chicago 10, Secretary.
1953 Clinical Meeting, St. Louis, December 1-4.
1954 Annual Meeting, San Francisco, June 21-25.

American Cancer Society, New York City, N. Y., November 2-6, 1953. Dr. Charles S. Cameron, 47 Beaver Street, New York 4, Medical Director.

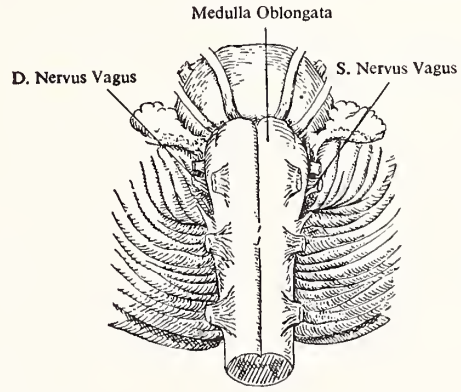
American College of Cardiology, Hotel Statler, Cleveland, Ohio, November 6-7, 1953. Dr. Philip Reichert, 480 Park Avenue, New York 22, Secretary.

American Public Health Association, Hotel New Yorker and Hotel Statler, New York City, N. Y., November 9-13, 1953. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

National Association for Mental Health, New York City, N. Y., November 17-19, 1953. Dr. George S. Stevenson, 1790 Broadway, New York 19, Medical Director.



Central origin of the vagus nerves (parasympathetic)



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Banthīne[2] "has dual effectiveness; it inhibits acetylcholine liberated at the postganglionic parasympathetic nerve endings and it blocks acetylcholine transmission through autonomic ganglia."

It has been shown[1] to diminish gastric motility and secretion significantly as well as intestinal and colonic motility.

The usual schedule of administration in peptic ulcer is 50 to 100 mg. every six hours, day and night, with subsequent adjustment to the patient's needs and tolerance. After the ulcer is healed, maintenance therapy, approximately half of the therapeutic dosage, should be continued for reasonable assurance of nonrecurrence.

Banthīne® (brand of methantheline bromide) is supplied in: Banthīne ampuls, 50 mg.—Banthīne tablets, 50 mg.

It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

1. Zupko, A. G.: Pharmacology and the General Practitioner, GP 7:55 (March) 1953.

2. McHardy, G. G., and Others: Clinical Evaluation of Methantheline (Banthīne) Bromide in Gastroenterology, J.A.M.A. *147*:1620 (Dec. 22) 1951.

SEARLE Research in the Service of Medicine

TUBERCULOSIS ABSTRACTS*

Issued by the National Tuberculosis Association

Trend of Tuberculosis Morbidity

By Julius Katz, M. D., The American Review of Tuberculosis, March, 1953.

In contrast to well-documented evidence of the marked decrease in mortality from tuberculosis during the past 50 years or more, there is a dearth of reliable information regarding morbidity from this disease. The number and ratio of deaths and reported cases are used, therefore, to estimate the trend of morbidity. Recent reports based upon these statistical data conclude pessimistically that, while the number of deaths and the death rates from tuberculosis have decreased considerably since 1900, the rate of development of new cases of this disease has not changed or is increasing.

It has been stated by Edwards and Drolet that "a widening gap is developing between the tuberculosis morbidity and mortality in the United States," while Drolet and Lowell conclude that "it is primarily institutional care, or rather improved medical and surgical treatment of active cases of tuberculosis, which is now modifying so favorably the mortality record. Where tuberculosis campaigns remain weak, however, is still in the field of prevention with regard to reducing outbreaks of new cases of tuberculosis."

The conclusions to be drawn from these statements are that tuberculosis is mainly a clinical problem and that tuberculosis control programs have failed to prevent the spread of the disease. In this paper the available morbidity data are reviewed in an effort to determine the trend of the incidence of tuberculosis for Upstate New York (New York State exclusive of New York City).

Before considering morbidity, however, the effect upon the reduction in death rate of institutional care, or of improved medical and surgical treatment of active cases of tuberculosis, needs consideration. In order to make it clear that factors other than hospitalization and treatment are involved in the declining death rate, it is only necessary to point out that the decline is not of recent origin. In Upstate New York facilities for the hospitalization of the tuberculous were quite limited until approximately 1915. During the early years of this century treatment was limited mainly to bed rest, with pneumothorax and surgery being used infrequently. Nevertheless during these years there was a continuous decrease in the death rate. Even after specific therapeutic measures came into common usage, their effect was not reflected by sharp changes in the death rate since 1900. Until recently the percentage of patients who received such specific treatment for tuberculosis was too small to affect the death rate significantly.

For additional evidence that the decrease in the tuberculosis death rate is not entirely dependent upon specific therapy, the experience in the control of tuberculosis among patients in state mental institutions may be cited. During the 10-year period beginning with 1941, the rate of decrease of tuberculosis mortality among these patients has been similar to that for New York State as a whole. This similarity in change in death rate among mental patients (whose average age is approximately 52) to that in the general population (with an average age of approximately 35) is an indication that factors other than specific treatment are also involved in the reduction of deaths from tuberculosis.

It appears, therefore, that the hospitalization of tuberculous patients and their treatment are not the only causes of the changes in death rates. Of equal importance to those concerned with the control of tuberculosis is the validity of the statement regarding failure in the preventive phase of tuberculosis campaigns.

Since accurate information regarding the incidence of tuberculosis in the general population is non-existent, Drolet and Lowell use the number of reported cases and the ratio of cases to deaths as indices of the rate of development of the disease. They discuss the marked decrease in the number of deaths from tuberculosis between 1930 and 1950, during which time the number of cases reported annually remained the same so that the ratio of cases to deaths ("community case fatality") decreased from 70 to 29 per cent. They infer that the incidence of tuberculosis has not decreased during this 20-year period.

These data, however, do not take into consideration the number of persons examined and the percentage yield of cases of tuberculosis. While the number of cases of tuberculosis reported annually may be a reasonably accurate index of the trend of the annual incidence rate, this is true only when case-finding activities remain at the same level year after year. In studying the trend in incidence, the percentage yield of cases of tuberculosis among those examined is more important than the total number of cases found annually. If the composition of the groups examined remains essentially unchanged and the rate of development of new cases is constant, the percentage yield of new cases should also remain constant. On the other hand, any change in percentage yield of new cases in such groups may be due to a corresponding change in the incidence rate. For the study of the trend in incidence, data obtained from official case-finding activities in Upstate New York are used.

Tuberculosis hospital clinics: In spite of an increase of 40 per cent in the number of persons examined in 1948-1950, compared with 1939-1941, there was a decrease in the number of cases reported from the clinics of state and local tuberculosis hospitals in Upstate New York. The percentage yield decreased 40 per cent during this time, from 2.8 to 1.7. Part of this decrease may be due to the fact that during the later years groups of patients reporting for roentgenograms only are included. Among these groups the tuberculosis case yield is lower than among contacts and suspects. The decrease in the total number of reported cases, as well as the lower case yield, is evidence of a decrease in the incidence of tuberculosis in the population served by these hospitals.

Community survey and general hospital admissions: Similar results were obtained among persons examined in community surveys and those examined roentgenographically upon admission to general hospitals in Upstate New York. In spite of a 57 per cent increase in the number of examinations in 1950-1951, compared with 1948-1949, there was an increase of only 21 per cent in the number of cases diagnosed, while the percentage yield of cases of tuberculosis decreased 22.9 per cent. The lower percentage yield of new cases of tuberculosis in these large segments of the upstate population can be due only to a decrease in the rate of development of new cases. It is probable that this reduction in incidence is an important cause of the decrease in tuberculosis death rates.

A study of the total number of cases reported and the case rates for the past 16 years in Upstate New York shows that the ratio of cases per 100,000 population decreased from a three-year average of 99 in 1935-1937 to 68 for 1948-1950. Part of the decrease may be due to a larger number of persons examined in mass surveys, among whom the percentage yield is lower than among contacts, suspects, or hospital admissions. The fact that the trend over the years for the entire population is toward a lower rate, as it is in the special population groups just mentioned, suggests a similar basic cause, a reduction in the incidence of the disease.

In spite of the decreasing incidence and number of deaths, tuberculosis still remains high on the list of causes of illness and death, and requires continuation of all efforts for its control. Those concerned with the effect of tuberculosis upon the public health are, nevertheless, entitled to know that the disease is yielding to these efforts.

(The printing of Tuberculosis Abstracts is made possible by the coöperation of your local tuberculosis and health association.)

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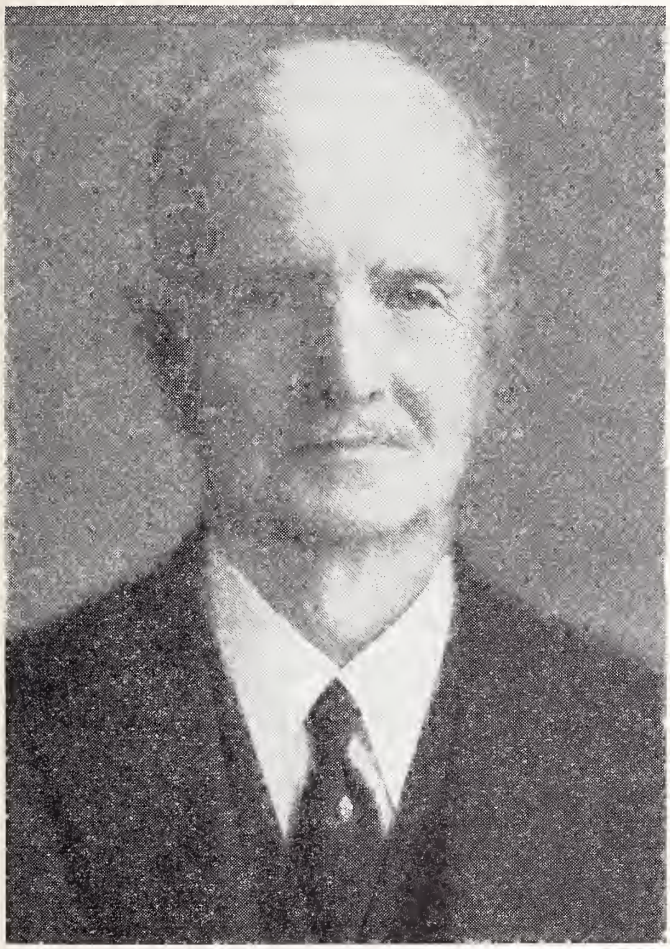
* From Vol. XXVI, October, 1953, No. 10.

NECROLOGY



Henry Herbert Brock, M. D.

1864 - 1953

"One of Maine's most noted surgeons for the last half century." With this citation did a president of the Maine Medical Association present him with the society's fifty-year gold medal in June, 1940.

Doctor Brock was born in Portland, Maine, on May 30, 1864. His parents were George and Alice Rowe Brock and his mother was a descendant of Captain John Lowe of Revolutionary fame who was one of the signers, making Maine a State separate from Massachusetts. He received his early education in Portland's Public Schools and later attended Amherst College, graduating in 1886 with such subsequently distinguished classmates as Robert Lansing, William Whiting, Allan Treadway, The Very Reverend Milo H. Gates of the Cathedral Church of Saint John the Divine of New York and Clyde Fitch, the playwright. Four years later he was graduated at the head of his class from the Medical Department of Bowdoin College. He then became an interne in the Maine General Hospital for one year before accepting an appointment as Portland's City Physician, after which he entered upon an eighteen-year associate-ship with Doctor Stephen Holmes Weeks, one of Maine's leading surgeons at the time. While thus engaged, he was elected an Adjunct Surgeon to the Maine General Hospital and made instructor in Surgery at Bowdoin. In 1897 came his appointment as surgeon to the Maine General, a position which he filled for twenty years. In due course he became Assistant Professor of Surgery at Bowdoin in 1900, and in 1905 its Clinical Professor of Surgery, a post which was held by him until Bowdoin's Medical Department was discontinued.

At the time of his death Doctor Brock was on the Honor Staff at the Maine General and Children's Hospitals at Portland. He was Consulting Surgeon to the Webber Hospital at Biddeford and the Goodall Hospital at Sanford for many years. During World War One he was in constant demand as Consulting Surgeon to Portland's Marine Hospital. His affiliations with Medical Societies included the Lister Club, the Innominate Club, the Portland Medical Club, the Cumberland County Medical Society, the Maine Medical Association and the American College of Surgeons.

In addition to the demands which these organizations and his large practice made upon him, he still had time to become one of the original Trustees of the Portland Farmers Club, to complete fifty years in Masonry, receiving its gold medal, and to make himself an authority in North American Ornithology.

The study of birds was the good doctor's hobby, one that he pursued with a vengeance. For years he was a favorite and authoritative lecturer before the Portland Natural History Society, to which organization he graciously presented his superb collection of waders, ducks, geese, shore birds and game birds, all of which he had mounted himself, together with their eggs, thus very substantially enlarging and enriching the Society's collection.

Dr. Brock had robust health which he never abused by indulgence in alcohol or tobacco, albeit he did overwork at times. His only handicap was a degree of deafness.

He was a man who possessed in unusual degree the qualities of mind, heart and hand which distinguish the surgeon from the mere operator. He was conspicuous for his moral soundness, his sense of justice, his painstaking attention to detail in the care of his every patient, his ability to inspire confidence in his patients, his unflinching courage when facing a difficult problem, his quiet dignity, his unfailing courtesy. The sensible portion of the public always entertained a high estimate of his medical character because he never had recourse to unprofessional or illegitimate modes of obtaining notoriety.

In a sense, Doctor Brock lived a very busy life in what might be termed well-known obscurity. He attended strictly to his profession, to his farm and to his hobby. He was distinguished among men but not too distinguished for his comfort, which is the ideal way to live. His splendid achievements in surgery into his eightieth year imply stature and stamina. Universally loved by all who were honored with his friendship, he was mercifully spared any more of the difficulties of this life on October 4, 1953.

His wife, Mary L. Rounds, passed away some years ago, but a son, Henry Weeks Brock, four grandchildren and three great grandchildren survive him.

"Were a star quenched on high,
For ages would its light,
Still traveling downward from the sky,
Shine on our mortal sight.

So when a great man dies,
For years beyond our ken,
The light he leaves behind him lies
Upon the paths of men."

E. W. Gehring.

The above obituary was prepared by our late lamented colleague, Doctor Edwin W. Gehring, and approved by Doctor Brock as long as four or five years ago. Inasmuch as Dr. Gehring with his warm understanding and fine literary craftsmanship has written this tribute, we accept gratefully the responsibility of publishing it.

T. A. F.

Advertisement

From where I sit
by Joe Marsh

An Honest Night's Sleep

Slim Johnson, just back from a business trip, tells about a hotel he stayed at one night.

"I arrived in town late and went right to the hotel. There was no clerk at the desk, but there was a sign that said: 'Have gone to bed. Rooms $3. Please take a key. Pay when you leave. Sleep Well.'

"Upstairs, the room was real clean, the bed comfortable and I slept like a log. Came down in the morning—still no clerk. So I left three dollars at the desk and went on. Can you imagine folks that trustful?"

From where I sit, running a hotel on the honor system shows a real trust in people. And people always appreciate being trusted. Letting the other fellow follow his profession without interference is one way of trusting your fellow citizens. So is your regard of my *liking an occasional glass of beer. You may prefer buttermilk, but let's hope neither of us "register" a complaint against the other.*

Joe Marsh

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NEWS AND NOTES

Maine Practitioners Hear Boston Pediatric Experts at Institute in Bangor

General practitioners from the entire State of Maine attended a pediatric institute Friday, September 18, 1953, at the Eastern Maine General Hospital. The Institute was sponsored by the Division of Maternal and Child Health of the Maine Department of Health and endorsed by the Maine Medical Association.

Nearly 30 physicians attended the clinic, which was opened at 10.00 A. M. by Dr. Clair S. Bauman of Waterville, state chairman of the American Academy of Pediatrics. Dr. Ella Langer of Augusta, director of the Division of Maternal Health of the State Department of Health, introduced the first speaker, Dr. Alexander S. Nadas, chief of the Congenital Heart Clinic of the Children's Medical Center, Boston. Dr. Nadas spoke on the newer developments in pediatric cardiology.

At 11.30 o'clock a talk on the surgery of congenital heart diseases was given by Dr. Luther A. Longino, surgeon at the Children's Medical Center, Boston.

The afternoon session was devoted to a talk on orthopedic conditions in newborn and infants, given by Dr. David Grice, associate attending orthopedic surgeon of the Children's Medical Center, Boston, after which a discussion period on a case in the Eastern Maine General Hospital was conducted by Dr. Albert W. Fellows, chief of pediatric services at the hospital, and by Dr. Frederick Emery.

Accepted by A. M. A. Council on Pharmacy and Chemistry

The Council on Pharmacy and Chemistry of the American Medical Association has accepted Vitamin B12 with Intrinsic Factor Concentrate. Bifacton (Organon), a complex prepared from Vitamin B12 and intrinsic factor concentrate. The latter is prepared from hog stomach.

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The Journal of the Maine Medical Association

Volume Forty-Four Portland, Maine, November, 1953 No. 11

PSYCHOSOMATIC ASPECTS OF MEDICINE*

Dana W. Atchley, M. D.,** New York City, N. Y.

Dr. Cox, Members of the Maine Medical Association and Guests. It is a great pleasure to be here on my second visit to Portland. My first visit was almost exactly fifty years ago, when my father brought me to Portland from Bath. It was the first city that I had ever seen. He was attending a Ministers' Convention here. I will never forget the excitement of coming here to Portland and seeing what a real city was like.

I must say that it looks different now. But, I was thrilled then, as now, and I am very happy to be here.

The term "psychosomatic" received its first public recognition when the journal, "Psychosomatic Medicine" was founded in 1938. It was my interesting task to represent internal medicine on the editorial board which launched this Journal. We felt that we were pioneers, although we knew that recognition of the influence of the emotions on man's health was no new concept. Whether our Journal played a role or not is difficult to say, but a great wave of interest swept over the medical world and "psychosomatic" has become a household word familiar to an increasing number of laymen, as well as physicians.

Light verse in the *New Yorker,* scientific descriptions in *Life* and a song about it in a Broadway hit attest to the current public appeal of psychosomatic medicine.

Both lay and medical literature have, for many years, shown an appreciation of the somatic manifestations of the emotions. Hawthorne, in the *Scarlet Letter,* over 100 years ago, wrote as follows:

"Wherever there is a heart and an intellect, the diseases of the physical frame are tinged with the peculiarities of these."

And he says of his hero:

"Thought and imagination were so active and sensibility so intense that the bodily infirmity would be likely to have its ground work there."

The copy of Osler's "Principles and Practice of Medicine" which I purchased as a student 40 years ago speaks of bronchial asthma as a "neurotic affection" and points out that the "mental state may profoundly affect the intestinal canal."

The physical effects of fear and anxiety have always been apparent to the intuitive physician, even in those days when the science of medicine was too limited to permit an understanding of the mechanisms involved. The application of this intuitive knowledge was largely responsible for the triumphs of healing before the days of modern therapy. Intuition is still important, but we are now fortunate in being able to supplement it by an increasingly accurate understanding of the underlying forces.

The field of psychosomatic medicine has been interpreted and defined in a variety of ways and the large number of workers active in this field include a wide spectrum of disciplines. There is the internist who feels that internal medicine *is* psychosomatic

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* Presented at M. M. A. Centennial Session, Portland, Maine, June, 1953.

** Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons, New York City, N. Y.

medicine, because he is always interested in both the psyche and the soma and their mutual interactions.

The psychiatrist attempts to find personality patterns that consistently produce certain diseases, such as hypertension. The physiologist studies the effects of the emotions on the gastric mucosa and the neurologist analyses myograms in the muscle tensions of anxiety. The orthopedist notes that certain individuals seem accident prone and return again and again with new fractures.

It is apparent that an attempt to define psychosomatic medicine in any rigid way would be confusing and controversial. Although one hesitates to de-limit the boundaries of psychosomatic medicine or perhaps even to admit it to independent sovereignty, the term "psychosomatic" may be used as an adjective to modify the words, mechanism or etiology, with rather precise meaning. A psychosomatic mechanism is one in which disturbances in the emotions produce bodily symptoms via the nervous system. These symptoms may be wholly functional as in headache, or there may be actual organic lesions as in peptic ulcer. The causes lie in the emotions, the manifestations appear in the body.

Psychosomatic phenomena are observed in all branches of medicine, from the family physician to the most limited specialty. The interest that has been stirred by psychosomatic journals and societies has had real propaganda value in stimulating the medical profession to pay more attention to the role of the emotions. There are fewer physicians, today, who turn with disdain from the neurotic patient and find their deepest satisfaction in organic disease. But I must take this opportunity to indicate my feeling that there is no place for psychosomatic medicine as a clinical specialty. Concentration on this field may be highly profitable in terms of research or teaching, but every physician should be a practitioner of it, and every physician is, consciously or unconsciously. The internist, of necessity, sees more psychologically derived illness and should, by his training, be better able to recognize it and treat it, but medicine will never reach its highest goal until all physicians are understanding and competent in this etiological realm.

As I have stated, the wise and intuitive family physician long ago recognized that his patients' emotions played a large role in their health, but he suffered constant conscientious apprehension lest he miss a co-existing serious organic disease. Therapeutic management was thereby inhibited on both the psychological and physical levels; the extraordinary advances of the past thirty years in diagnostic techniques and the understanding of disease mechanisms has done much to end this unsatisfactory situation. The present day physician can, either in his own office, or in some medical center, carry out procedures that are so precise that the physical status of the patient is determined with a high degree of accuracy. Such studies have made it possible to recognize many patterns that are as characteristically neurotic as lobar pneumonia is organic.

May I cite a case from my own experience to illustrate. The patient was a young man in his late twenties, his wife was a patient of mine, a fine girl who had suffered a great many illnesses, in part organic, in part neurotic; the depression had hit them hard and the husband was working, unhappily, at an automobile service station, rather heavy work, since there were oil drums to be moved regularly. One day I was called and told that the man, while at work, had had an acute attack of weakness and palpitation, and was arriving by ambulance.

By the time he reached the Presbyterian Hospital, he was without symptoms or physical abnormalities. A careful history revealed no evidence of cardiac or other symptoms, although he evinced considerable anxiety. The objective study on the medical service could be, with modern methods, so thorough that reasonable doubt as to organic disease was eliminated.

It was soon clear, not only by exclusion, but by an analysis of his symptoms, that he had experienced the somatic manifestations of anxiety. He was reassured by being given a thorough explanation of his symptoms and the mechanisms involved. He was encouraged to return to full physical duty, which he did. All went well until he sat next to a physician at dinner one night a few weeks later. This doctor, who was obviously somewhat exhibitionistic and thoroughly unsophisticated, questioned him about his illness and gratuitously told him that he should be very careful, for the whole affair suggested a serious heart lesion, namely, a ball valve effect from an auricular thrombus.

The next day, my patient had a relapse and was re-admitted to the hospital. It was more difficult to reassure him this time, but it was finally accomplished, and he remained well; permanent neurotic cardiac invalidism was avoided.

Our knowledge of the emotions has not progressed with the rapidity that the remarkable development of the basic sciences has made possible in the somatic area, but there is an increasing fund of facts that can aid the physician to a wiser management of his patients' emotional problems, concerning, for example, parent-child relationships, sex difficulties, feelings of insecurity, guilt and inferiority, and recognition of unconscious motivations.

These facts have been of great value to the modern internist as he has become increasingly preoccupied with the total individual in what is being called comprehensive medicine. The urge to understand the personality, as well as the physical machine is as old as Plato,, but it is more openly taught and practiced now than ever before.

When I was a medical student, a patient was the

impersonal vehicle of physical signs, from which we tried to predict an accurate autopsy. Today, at Columbia, we urge that a student's case presentation reveal, first, an individual with his social, economic and personality background, and then the disease mechanisms existing in that well-defined setting.

Research into the mechanisms by which the emotions influence bodily functions found their first significant beginnings in the work of Pavlov, the Russian physiologist and Nobel prize winner, won in 1904, whose work on conditioned reflexes laid the foundation for many of our concepts in this field. But the first great integrator of the emotions and physical phenomena in a way that clearly related to the clinicians' experience was Walter Cannon, Professor of Physiology at Harvard University. In 1915, he published the results of his experiments under the title "Bodily Changes in Pain, Hunger, Fear and Rage," and psychosomatic medicine was launched although few realized the many ports of call that his ship would enter.

Harold Wolff and co-workers at the Cornell Medical Center have studied in detail many psychosomatic reactions and their experiments have been very rewarding. On a patient with a permanent gastric fistula, it was found that insecurity and hostility induced hyperemia of the gastric mucosa, hypermotility and hypersecretion. They also found that in patients with peptic ulcer, the response of acid hypersecretion was more pronounced than in normals stimulated to similar emotional reactions. Of course, the production of an ulcer is not quite as simple as these experiments would indicate. We don't know why one person has only "heartburn," another a gastric ulcer, and a third a duodenal ulcer, but step by step, the darkness is being illuminated by thoughtful research.

The complications of diabetes mellitus, particularly acidosis, illustrate well the complexity of psychosomatic phenomena. It has long been known that anger and fear will increase glycosuria, but Hinkle and Wolff showed that emotional stress will also elevate blood ketones even in the absence of any change in dietary regime. Furthermore, Rosen and Lidz, analysing the records of recurrent admissions of diabetics in acidosis, found the primary factor in producing the acute ketosis to be a willful abandonment of insulin for emotional reasons, such as conscious or unconscious desire for the shelter of the hospital or even of suicide. If we add one more component, namely, the emotional urges for forbidden pleasures, such as sweets, we have a series of varying routes by which the psyche upsets the metabolic equilibrium in diabetes mellitus. Thus, the emotions may initiate profound and dangerous electrolyte, fluid and circulatory disturbances.

Another type of research in this field is the psychiatric attempt to determine whether specific personality patterns are associated with definite disease entities, such as hypertension, peptic ulcer, or migraine. Are there emotional conflicts that characteristically lead to ulcerative colitis or asthma? It is very difficult to prove such theses because of the time required to explore the emotions and the many variables that enter the equations. The papers that I have read as an editor of "Psychosomatic Medicine" have interested me, but have left me somewhat unconvinced. But one would hesitate to discourage this approach, for a successful solution of it might be of great value to preventive medicine.

It is fitting to turn directly from a consideration of psychosomatic research to a discussion of diagnosis, for the essence of sound diagnosis is derived from the application of scientific investigation. However, the word "diagnosis" is being more and more amplified in modern medicine by such terms as analysis or appraisal. It is appropriate to speak of analysing an individual for the psychosomatic components, but one would hesitate to speak of a psychosomatic diagnosis. May I develop this statement, using bronchial asthma as a text. Many forces, singly or in combination, produce an attack of asthma. Basically, there is the inherited or acquired allergy. This may be the whole story; a patient may be sensitive to canaries, for example, and have an attack only when exposed to the feathers to which he is so responsive. On the other hand, a ubiquitous antigen may keep the bronchial tree merely in a state of susceptibility, which requires an exceptionally large exposure to the offending substance for the induction of an attack. But also, non-specifically, an upper respiratory infection, or dust, or smoke, or exercise, or cold air may bring on bronchial spasm. And, it has been long recognized that emotional tension will precipitate symptoms.

The diagnostic classification, bronchial asthma, is relatively easy to make, but a complicated process of analysis is often required to recognize and evaluate all of the components that add up to produce dyspnoea. Included are, a careful search for antigens and their quantitative availability, study of the environment for respiratory irritants, knowledge of the physical habits of the patient and a thorough understanding of the emotional cross-currents of his life. If one adds studies of pulmonary and cardiac physiology for the participation of such secondary effects of asthma as emphysema or cor pulmonale, it is clear that the psychosomatic aspects, though they be outstanding, remain only one facet of the total problem.

It is true that asthma is potentially a very complex condition, and of course there are many patients in whom psychological conflicts produce a single symptom and no complicating manifestations exist. The man who complains of a constricted, choking feeling in his throat with a sensation of inability to swallow, yet has no organic pathology, represents a simple

psychological phenomenon explained by chronic tension, related, perhaps, to business worries. The psychosomatic component in an individual may be predominant, or it may play a minor role, but it should always be evaluated when a careful appraisal of the patient is justified by the presence of more than a minor ailment.

It is encouraging to find an increasing number of family physicians with a positive interest in the role of the emotions in the health of their patients. The excitement that a palpable spleen or a friction rub evoked when I was a young man is being supplanted by a concern with the richer field of the emotional reactions and the life situations of an individual. Out of those reactions spring more of the fascinating and curable ills of man than are derived from any other source.

Long before the word "psychosomatic" became popular, the wise internist, as I have stated previously, was studying the emotions of his patients and was familiar with many of the mechanisms by which they cause bodily symptoms. But the psychosomatists have done much to popularize a conscious approach to this etiological component and have contributed even more of value by indicating to the internist his duty as a psychotherapist.

The somatic manifestations of the emotions appear in a variety of forms. There is no time in a brief discussion to catalogue them in detail, but I should like to indicate a few general types. A primary division could be made into (1) general bodily sensations and (2) more localized symptoms. The latter may be focused on a definite organ or may have a distribution defying anatomical explanation.

In the more diffuse group, we see the severe exhaustion and weakness and sensations described as dizziness, that may create permanent invalidism, if not properly recognized. In non-endemic areas, many cases classified as brucellosis fall in this category of neurotic exhaustion, while others are called hyper- or hypothyroidism, but the commonest misapprehension is the assumption that they are due to vitamin deficiency. Vitamin injections are often effective psychotherapy, but Christian Science would probably aim more directly at the seat of the difficulty. It is a reasonably accurate generalization to state that it is rare for a chronic organic disease to be so advanced that it will produce weakness and exhaustion and yet its pathology be undiscoverable by modern methods. These patients should have a meticulous overhauling, but the physician must have the courage to treat them as emotional problems when the evidence so indicates.

Every one is familiar with the disturbances that develop in relation to organs or systems; the heart, lungs, stomach, colon, skin, eyes. Some of the most fascinating cases in medicine are those patients who have both an organic lesion and a psychosomatic reaction in relation to the same organ. I well remember, for example, a man with obvious coronary disease, whose chronic symptoms were atypical chest feelings characteristically neurotic. He telephoned one day with unmistakable coronary pain, and came into the hospital with a cardiac infarction. During his stay, he was entirely free from all of his psychosomatic symptoms and convalesced with unusual smoothness, but when he went back to the stresses of his office, the old feelings reappeared. The telephonic recognition of his obviously organic pain gave strong support for the reassurance required in treating his psychosomatic discomforts.

A recurrent pain unrelated to structure or physiology is not an uncommon psychosomatic phenomenon. In such instances, the physician is slow to feel secure in the ruling out of organic disease, even after a thorough diagnostic study. However, the longer the duration of the symptom, the less doubt remains and a time usually arrives when it is safe to take a firm stand for psychotherapy.

Prolonged illness generates emotional reactions that produce new symptoms, exaggerate the old and prolong convalescence. The severity of a pain at the onset of an illness is usually due to trouble at the site of the pathology, but as healing takes place, there is a slow diminution in the strength of the signal from the affected area (speaking in radio analogy). The effect of suffering, isolation and anxiety in the meantime increases via the emotions the sensitivity of the receiving apparatus, so that the much decreased pain comes in as unpleasantly as it did in the beginning. Patients may be much relieved by an explanation of this type of reaction.

As one turns to a discussion of therapy in psychosomatic afflications, he finds the same evolution of terminology that was encountered in diagnosis. As we substitute appraisal for diagnosis, we now use the term "management" instead of "therapy." The physician who has spent some time in the careful appraisal of a total individual will not be satisfied to offer merely a vitamin shot and a prescription for phenobarbital. Let us, therefore, direct our attention to a few of the problems that arise in the comprehensive management of a patient with psychosomatic manifestations.

Great care must be exercised in choosing the first therapeutic approaches, for success or failure may be forecast from them. Two initial steps should be carried out more or less simultaneously. These steps are (1) palliative treatment on the somatic level and (2) informative discussion with the patient as to the nature of his illness. The somatic relief needs little comment and is sometimes so successful that deeper problems are ignored. Dietary regulation for peptic ulcer, bronchial dilators in asthma, sedatives and analgesics for pain are familiar examples of the techniques available to the practitioner. But no matter how quickly or satisfactorily the symptoms are

ameliorated, there are few patients who will not profit by an understanding of the basic nature of their illness presented in the framework of some exposition of psychosomatic mechanisms in general.

I have found it of value to emphasize these points: The condition is a medical problem and curable. It is a common, perhaps the most common producer of symptoms. Derivation from the emotions does not imply mental illness or insanity. The symptoms are not imaginary and do not arise from a defect in character; in fact, the sensitivity that makes the psyche vulnerable is often an expression of the talent which is the patient's greatest asset. When the indoctrination is completed, the patient may not be enchanted with his neurosis, but at least he will not be ashamed of it.

At this juncture, one must face the important question: Shall the family physician, the internist, or whatever physician is responsible, undertake psychotherapy?

The answer is almost always, yes.

There are, for purposes of discussion, three levels of psychotherapy that are well within the competence of a physician who has had no special psychiatric training. There is, in the first place, the simple, but fundamental patient-doctor relationship. The second level is common-sense assistance of the patient in solving practical problems in his life situation. And, finally, aid may be afforded with intrinsic emotional difficulties, such as guilt sensations, unjustified anxieties, or sex problems. While more technical than the other approaches, such aid requires only the knowledge that elementary reading would provide if accompanied by intelligent objectivity. Let us explore these three levels in more detail, beginning with the doctor-patient relationship.

When confidence has been placed in him, the physician has much to offer his patient that is far beyond the limits of technical therapy. An attentive interest, undivided loyalty, trustworthy reception of confidential facts, with the relief that comes from their disclosure, constant reassurance, sympathetic understanding and warm compassion; all of these gifts, the true healer can give his patient, regardless of the quality of his medical skill. He needs only time and love of his fellowman. Faith is a great healing force, and should be as active a component of the scientific physician's armamentarium, as it is of the quack's. It is the first step of psychotherapy, and is often the only one that is required.

As for the second level, the practitioner of medicine in a small community is fortunate in his ready-made knowledge of the life situations of his patients, but the art of good history taking has improved so much in recent years that there is no excuse for a doctor's continuing unfamiliarity with the background of even a complete stranger. Many individuals will eagerly pour out their worries, but others are either reticent or without insight, and need gentle probing into family relationships, business stresses and community frustrations. The physician's uninvolved emotions make him a dispassionate listener, whose reactions are clarifying to the confused patient, even before any positive advice is given. Unwise moves can be modified, self-confidence can be restored and conflicts arbitrated with resulting improvement or even actual cure of the somatic symptoms.

The third level of psychotherapy is concerned with the emotional mechanisms within the personality of the patient, irrespective of the environment. He may, for example, be a perfectionist, or overly dependent on a maternal relationship or aggressive on the basis of feelings of inferiority. There are a number of relatively common psychological problems that a well-read physician can recognize and explain to his patient with considerable benefit. The articles by Cobb and Rennie in the Cecil and Loeb "Textbook of Medicine" give not only a clear statement of elementary facts, but useful references. The therapeutic returns in this area will not be as easy or as frequent as in some others, but conscientious effort is well justified by the rewards that may be obtained.

Sooner or later, anyone who has the temerity to discuss psychosomatic medicine is asked the question: Shall I refer my patient to a psychiatrist? Unfortunately, the answer is often given in the negative, solely on the practical basis of lack of time or money or the unavailability of a psychiatrist. However, there are certain cases which the family physician or internist should hesitate to retain.

Briefly, one can suggest the following situations requiring a psychiatrist:

1. Patients with a history of a nervous breakdown or a psychotic episode;
2. Patients with a deep, emotional problem such as a perversion or obsessive reactions;
3. Patients whose anxieties fail to respond over a fairly long period, such as several months, to the physician's psychotherapy;
4. Patients whose psychosomatic manifestations have existed for many years with much unsuccessful treatment, including operations;
5. When the somatic symptoms are delusional, such as hallucinatory odors or sensations of parasitic infestation.

When a patient is referred to a psychiatrist, the fact should be faced candidly: I do not approve of the subterfuge of speaking of the consultant as a neurologist or a friend, anything but a psychiatrist. It is the duty of the physician in charge to prepare the patient to accept, indeed to wish for psychiatry; otherwise the psychiatrist is handicapped from the outset.

As the appraisal and management of sick people move to higher and higher levels of scientific accuracy and understanding, credit must be given to those who

have been devoted to psychosomatic mechanisms for keeping the advance in psychologically derived illness in pace with somatic progress. Without this stimulus, the present-day marriage of the art of healing with the science of medicine would have had slower consummation.

TEMPORAL ARTERITIS: TREATMENT WITH CORTISONE: TWO CASE REPORTS

Milan A. Chapin, Ph. D., M. D.,* and Robert A. Frost, M. D.*

Temporal arteritis is an uncommon syndrome, approximately seventy-five cases having been reported since it was first described by Horton, Magath and Brown in 1932.[1] Perhaps the term "cranial arteritis," suggested by Kilbourne and Wolff[2] is preferable, since other branches of the common carotid artery are frequently involved in the inflammatory process. The syndrome may be more common than reports indicate, and its "uncommon occurrence" a reflection of lack of recognition. Because of its variable symptomatology, patients with the disease may be seen by ophthalmologists, otolaryngologists, neurosurgeons, neurologists, etc., so that specialists should keep the syndrome in mind. One of the case reports to follow clearly demonstrates this fact. Because of the marked visual impairment and blindness which results late in the course in more than half of the cases, the necessity of early recognition is apparent.

Until recently, treatment of temporal arteritis by many and varied methods proved of no avail, the disease running its course of three to twenty months with the sequellae of thrombotic obliteration of essential cerebral vessels. In 1950, two patients were treated with cortisone by Shick, Baggenstoss, Fuller and Pulley.[3] There was complete relief of symptoms without ocular sequellae. A subsequent report confirmed this result.[4]

The following case report serves as additional confirmation of the effectiveness of cortisone in this disease. Not only is there rapid control of symptoms and evident complete remission of the arteritis, but, more important, the damaging sequellae are apparently avoided.

Case Report

H. W., #161259, an 84-year-old retired male, was admitted to the Central Maine General Hospital 2/18/53, complaining of severe persistent headaches of nearly one month's duration. He had been well and active until five weeks before admission when there was onset of generalized muscular and joint aching pains, fatigability, chilliness and suggestion of fever. A dull headache, anorexia and weakness were also present. As these symptoms became more marked during the first week, he was seen by his physician, who found an oral temperature of 101°F., a pulse of 90, respirations of 22, and blood pressure of 120/80. No obvious infection was discovered; a diagnosis of the then current "grippe" was made and aspirin, gr. X every four hours administered. During the next two weeks, all symptoms persisted and grew more marked. The previously dull headache developed into a severe bitemporal throbbing pain, described as: "If this had kept up it would have driven me out of my mind." The head pains were worse at night, interfering with sleep, and there were frequent sharp, shooting, "stabbing" pains, radiating backward from the temples to the occipital area, which would cause him to groan, clasp his head and cringe. He became generally ill and weak with continued fever, insomnia and loss of appetite and weight. When seen by his physician one week before admission, the latter's attention was directed to the temple pain and examination disclosed tortuous, swollen, indurated nodular and very tender temporal arteries. Attempts to feel these vessels resulted in cries of pain. He complained of aching pains in shoulders, arms, neck, back and legs, and also stated that simple chewing of food resulted in pains in the region of the temporomandibular joints. The oral temperature was 100.4°F. No other peripheral arteries could be found similarly inflamed. Oral demerol, 100 mg. every four hours as necessary for the pain was advised. Though this relieved the acute pain there was left a dull persistent throbbing ache in the region of the temporal vessels which remained very tender to palpation. Cortisone, 25 mg. four times daily, was administered for three days prior to admission, with gradually increasing relief on the third day. There had been a weight loss of twelve pounds in the month before admission. There was no vertigo, tinnitus, diplopia, blurring or loss of vision. *Past History:* "Pleurisy" in left chest for four days at age of 17 years. "Nervous breakdown," 1913-1914. Cholecystectomy and appendectomy, 1921. Intermittent bouts of hesitancy, dribbling, nocturia, frequency and incontinence in the course of the last two years.

On physical examination, there was a temperature of 99.8°F., a pulse rate of 80, respirations of 20, and blood pressure of 120/80. He appeared ill, and younger than his stated age of 84. Somewhat pale, anxious facies, forehead furrowed in pain, and a desire to hold his head in his hands were notable features. Both temporal arteries were tortuous, thickened, en-

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larged, prominent, indurated, nodular, and very sensitive to palpation. The overlying skin was tender. The pupils were small and sluggishly reactive; there were bilateral early senile lenticular opacities; there was some narrowing, arterio-venous nicking and tortuosity of the retinal vessels. The intra-ocular tension and visual fields were grossly normal. The teeth were still present and in surprisingly good condition. Carotid artery pulsations were present bilaterally. The lung fields were clear. The heart seemed of normal size and a grade II blowing systolic murmur was audible at the apex. There was a small, reducible, right inguinal hernia,—otherwise, the abdomen was not remarkable. A moderately enlarged, firm and smooth prostate was palpable rectally. Rhythmic tremors of the hands and fingers were present. All peripheral arteries were somewhat thickened and tortuous but pulsatile.

The red cell count was 3.8 m., the hemoglobin 11.5 gm. (74%), the white cell count 16,700, with 70% polymorphonuclears, 19% lymphocytes, 8% monocytes, and 2% eosinophils. A urine specimen was acid, sp. g. 1.026, negative for sugar and albumin, and contained 0-3 wbc. in the sediment. The serology was negative. The sedimentation rate was 24 mm./hr. (Westergren method). A chest roentgenogram was not remarkable. Ligation and biopsy of the left temporal artery was accomplished on the second hospital day. Microscopic examination of the specimen by Dr. Charles Branch, was reported as follows: "The lumen is partially obliterated by an organized and organizing thrombotic mass extending from the intima inward. The internal elastic membrane is intact throughout most of its course but shows occasional points of rupture. The outer layer of the media in approximation to the adventitia shows a new and increased vascularity and is infiltrated with large numbers of lymphocytes and plasma cells. Rare eosinophils, neutrophils and phagocytic macrophages are observed. One small nerve present shows a similar fibrosis and perineural infiltration with inflammatory cells. Diagnosis: Temporal Arteritis." (Plates I and II).

Cortisone administration was continued in dosage of 25 mg., three times a day, as the only medication. There was no fever after the second hospital day, the general weakness and appetite improved, and temporal pain and tenderness had disappeared at time of discharge, 2/24/53. When seen at home 3/10/53, he appeared his normal self and cortisone was discontinued. Two months later he was still feeling well and there was no tenderness of either temporal artery.

In summary, this man presented the typical features of the syndrome of temporal arteritis: malaise, generalized muscular and joint pains, anorexia, weight loss, fever, anemia, leukocytosis, increased sedimentation rate, and thickened painful, tender temporal arteries. Early appreciation of his disease allowed early administration of cortisone with amelioration of all symptoms and signs and avoidance of sequellae. Cortisone (or ATCH) appears to be the only specific treatment available at the present time.

The following case report demonstrates the ravages of this disease when not diagnosed or controlled in its early stages. The time and expense of his medical management, his many months of suffering and invalidism, and final relief only when totally blind present a pathetic contrast to the first case.

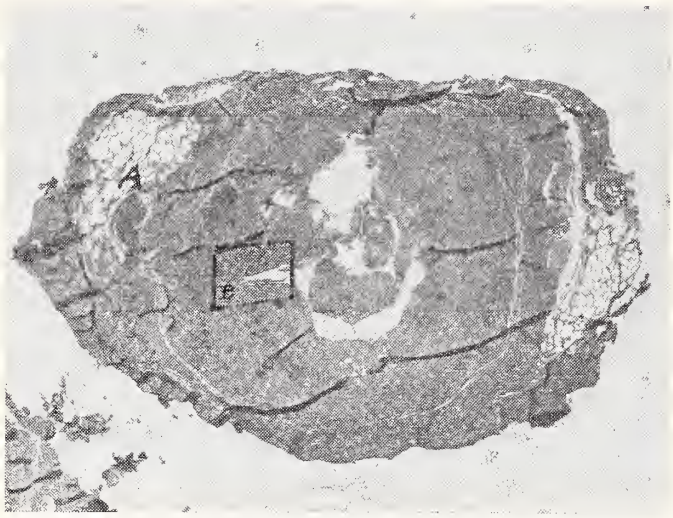

PLATE I

Section through left temporal artery and adjacent nerve showing almost total occlusion of lumen by organized and organizing thrombus. Internal elastic membrane almost totally destroyed. Foci of medial necrosis and extensive infiltration of media and adventitia with lymphocytes, phagocytic macrophages and plasma cells. Perivascular nerve at "A" similarly infiltrated. X 30. (Heavy black lines are artefacts.)

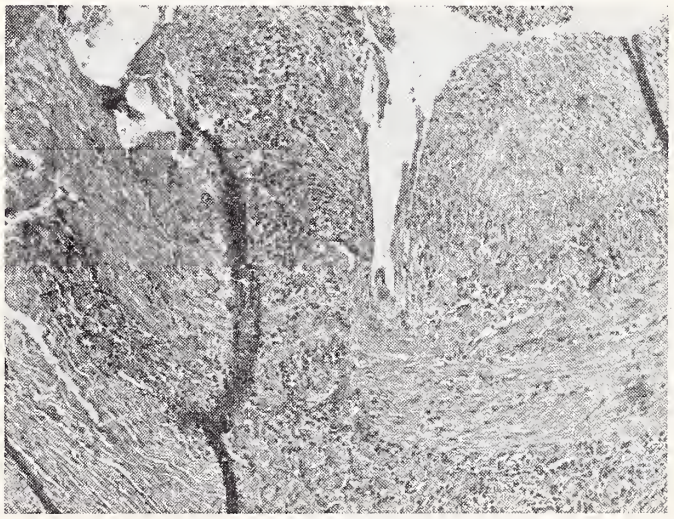

PLATE II

High power detail of area "B" showing old organized thrombus, absence of elastic membrane, medial necrosis with neutrophilic reaction and massive infiltration of media and adventitia with chronic inflammatory cells. X 300.

Case Report

This 57-year-old male was admitted to the Central Maine General Hospital, December 27, 1951, complaining of severe headache, loss of vision, nausea, vomiting and stupor.

His long and involved illness dated from November, 1949, when there was onset of noises, loss of hearing, and a sensation of water in the left ear. A week later he consulted an otologist who found the external ear canal swollen and advised him to use a nose spray. After two weeks of continued symptoms he was seen by another specialist who inflated the Eustachian tubes on four or five visits. By this time there was bilateral deafness and earache. Receiving no relief he consulted a third specialist who perforated both ear drums releasing watery fluid with transient relief of symptoms. Three days later the treatment was repeated following which a purulent discharge developed in the right ear and then by an acute frontal sinusitis with severe headache, high fever, chills and marked tenderness over the right side of his head from the right ear to the right frontal area. With penicillin the process subsided but pain and tenderness of the right side of his head continued requiring frequent use of codeine. Because of persistent symptoms of nasal discharge, headache, earache and deafness, roentgenograms taken at the Central Maine General Hospital of his sinuses and mastoids showed only a thinning of the bones and were interpreted as consistent with an allergic process.

On May 1, 1950, he was referred to a Boston Clinic where, in the allergic work-up, skin tests being negative, it was felt that his symptoms were largely on an infectious basis, and a diagnosis of vasometer rhinitis was made. He was given a diet and Chlor-Trimeton. In the EENT Department both middle ears were found to be filled with secretions and there was an associated bilateral mixed deafness. Bilateral myringotomics were performed and a moderate amount of clear serum was removed from the left middle ear and frank blood from the right. Diagnosis of bilateral, chronic serous otitis media, and deafness were made and he was given a nose spray. He did not improve and continued to require codeine and aspirin for severe headache. He therefore was admitted to a Boston Hospital on May 18, 1951, for a strenuous regime of antibiotic therapy with penicillin and streptomycin. His left ear improved but his headaches and the right ear remained the same. Therefore, on May 23, 1951, a right simple mastoidectomy was performed at which time it was found that the mastoid cells were filled with chronic inflammatory tissue and the right middle ear to be totally occluded by granulation tissue. During convalescence the right mixillary sinus was irrigated on several occasions with clear returns. Following his discharge from the hospital he still had periodic severe headaches over the right temporal area, occurring mostly at night and relieved by codeine and heat.

In July, 1950, he went to Bristol, Maine, to a private hospital where, under the care of an osteopath, he was treated with intravenous histamine daily. This give him his first relief of head pains since their onset eight months previously. This relief lasted for about two and one-half months.

At the time of his last visit to Boston in June, 1950, he first noted a "blood spot" on the outer edge of the right eye. This became progressively larger while at Bristol, Maine, and by September, 1950, the eye became inflamed and very painful. He consulted several ophthalmologists who treated him with cautery of an ulcer and with drops, without improvement. In November, 1950, he was admitted to another hospital for six days where the eye condition was treated with penicillin drops. A week later he was seen by his family physician because of a severe generalized rash thought to be due to penicillin. The eye condition failed to improve and after treatment by an opthalmologist in Portland, Maine, with cortisone eye drops, he was admitted to the Massachusetts Eye and Ear Infirmary on February 27, 1951. This history at that time states he had had many neuralgic headaches, bilateral at first but later only on the right, and that the right parietal and occipital region had been tender to touch for one year. After an extensive examination a diagnosis of sclerokeratitis of the right eye was made, cortisone drops and sub-conjunctival injections of cocaine, epinephrine and atropine were without benefit. It was felt that most of his difficulty was from an allergy to medication and all were discontinued. He made frequent return trips but the condition progressed. Finally, because of severe pain and loss of vision, an enucleation of the right eye was accomplished October 2, 1951.

Severe headaches continued and his physician administered cortisone 100 mgm. daily, by mouth. This seemed to relieve the headaches and he even returned to work but after one month headache returned and cortisone was discontinued. On December 14, 1951, there was sudden loss of vision in the left eye. Examination by an ophthalmologist revealed no cause for the blindness. At this time the patient became very depressed, emotionally unstable and began to have both visual and auditory hallucinations.

One week prior to this admission, his mental symptoms had cleared, but his headaches were now severe. Three days before entry there was sudden collapse and unconsciousness with a blood pressure of 80/50, cold and clammy skin, slow pulse and vomiting, persisting to time of admission.

The *past history* revealed that as a child he had some type of allergic illness or migraine. He frequently had to leave school because of sudden onset of severe nasal congestion and headache which often cleared by the time he was part way home. There was history of a head injury five years previously from a fall on the ice.

Physical examination disclosed a well developed and well nourished adult in a semi-stuporous condition, having both visual and auditory hallucinations and resistive to examination. The face was flushed, the lips cyanotic. Tenderness over the right temporal area was present. The right eye was absent, the orbit red. The left eye wandered aimlessly; the myotic pupil not reacting. The left fundus seemed normal. There was scarring of both ear drums and a healed mastoidectomy scar on the right. Nuchal rigidity was present but the general neurological examination was not remarkable.

A lumbar puncture revealed increased spinal fluid pressure, an equivocal right Queckenstedt and clear spinal fluid with 35 cells, mostly lymphocytes. The spinal fluid protein was 123 mgs.% and the colloidal gold curve showed a rise to 4 in the fourth tube and gradual decline. The blood NPN was 71 mgs.% and the remainder of the laboratory tests were normal.

There was improvement following the lumbar puncture with diminution of nuchal rigidity. An electroencephalogram showed localization over the left temporal and parietal areas with a second focus in the right frontal area. Roentgenograms of the skull showed suggestive thinning and expansion of bone in the left temporal area. A ventriculogram showed slight dilatation of the lateral ventricules. Because of these findings suggestive of an intracranial expanding lesion, a left parietal-occipital craniotomy was accomplished January 12, 1951, with a thorough exploration of the entire left side. Except for moderate edema of the brain, no gross pathology was found. The patient made an uneventful recovery but was left with a speech defect and weakness of the right arm and leg.

Following discharge from the hospital on January 30, 1951, there was gradual recovery. He regained the use of his right arm and leg, and, more important, had no more of the incapacitating headache present for over two years.

Dr. Charles Branch, after reviewing this case and examination of the sections has concluded the findings to be consistent with temporal arteritis. Sections of the enucleated right eye were prepared and examined in the Pathology Institute, Bathesda, Maryland, with the report of: "A granulomatous, inflammatory panophthalmitis of unknown cause." (Plates III and IV)

Briefly, this man, although manifesting many of the features of temporal (cranial) arteritis and complaining constantly of severe head pain, was, unfortunately, not diagnosed until totally blind, and then, only in retrospect. This happened in spite of examinations by well-trained physicians, in excellent clinics, and indicates a lack of awareness of the syndrome in physicians and specialists alike. The final relief of head pain following the craniotomy was probably a result of severance of periarterial nerve fibers.

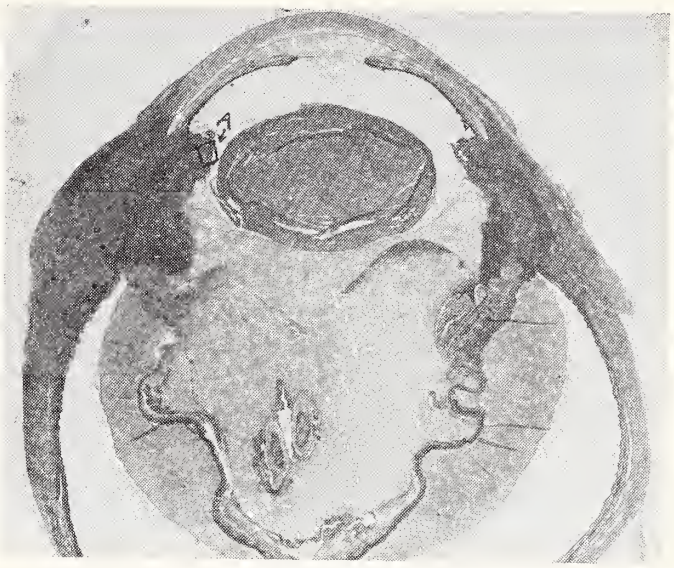

PLATE III

Low power of eye section prepared by Armed Forces Institute of Pathology, showing advanced chronic iridocyclitis and contiguous marked chronic inflammation of limbus and sclera with total occlusion of circulus arteriosus and detached retina. X 30.

PLATE IV

High power detail of area "A" showing profound chronic inflammatory reaction, destruction of the ciliary body and arterial occlusion. The majority of the infiltrating cells are lymphocytes and plasma cells. X 300.

Discussion

The clinical features of this syndrome have been presented above. The early symptoms of malaise, anorexia, fever and generalized joint and muscle pains, suggest a systemic disease. However, the localization of arterial involvement to the temporal and other branches of the common carotid artery has been the common denominator of case records so far. On the other hand, several reports favor the concept that this is but a part of a generalized arteritis.[5, 6] Its cause remains unknown. Only people in the older age grouping of 55 years or more are susceptible. Both sexes are affected.

Pathologically, there is a necrotizing, obliterative, proliferative and granulomatous panarteritis. Arteriosclerosis is constantly associated with this.

As has been true in other little-known diseases, temporal arteritis has run the gamut of therapeutic attempts,[7] all without effect until the advent of cortisone and ACTH. Though procaine instillation and surgical interruption of the involved vessels (and periarterial nerve fibers) have been symptomatically helpful in some cases, as in case two above, there are numerous recorded instances demonstrating that these procedures do not affect the course of the disease.[8, 9, 10]

Temporal arteritis is probably more common than the paucity of reports indicate. Undoubtedly, many cases are missed while others are not reported. Of greatest importance is an awareness of this syndrome, since its diagnosis is relatively easy if it is considered in obscure cases of persistent head pains.

Summary

Two cases of temporal arteritis are presented. One was successfully treated with cortisone, confirming recent reports of the effectiveness of this hormone in control of this syndrome. The other, in contrast, was undiagnosed, untreated, and had a prolonged course of suffering with final relief only when totally blind. Emphasis is placed on a greater awareness of this syndrome.

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CARDIAC LESIONS IN RHEUMATOID ARTHRITIS

Charles W. Steele, M. D., F. A. C. P., Lewiston, Maine

It was generally believed until recently that the lesions of rheumatoid arthritis were confined to the musculo-skeletal system and that the internal organs were not involved. However, during the course of recent studies, a new concept of heart disease as a specific manifestation of rheumatoid arthritis has been postulated. This is manifest when well developed by granulomatous inflammation quite similar to that seen in the subcutaneous nodules of rheumatoid arthritis. Nodular foci of this sort have been observed in the epicardium, adjacent myocardium and in the rings and leaflets of the aortic and mitral valves. The occurrence of such cardiac lesions in rheumatoid arthritis furnishes another point of similarity to other pathological features already recognized as being common to both rheumatoid arthritis and rheumatic fever, including the subcutaneous nodule and disseminated arteritis.

Considerable of the interest in this subject has stemmed, on one hand, from a belief in the fundamental relationship of rheumatoid arthritis to rheumatic fever, and on the other, from the clinical observation of acute pericarditis in an appreciable number of individuals with rheumatoid arthritis. The literature is highly controversial but in general it may be said that most clinical studies have failed to bring out a high incidence of rheumatic heart disease, while most pathological investigations have indicated that the two diseases coexist frequently. Most of the pathological investigations of the heart in rheumatoid arthritis have reported an incidence of rheumatic heart disease ranging from 19 to 66%. These figures are probably too high and it seems more probable that unmistakable pathological evidence of rheumatic heart disease can be demonstrated in 10-15% of cases with rheumatoid arthritis.

On the other hand, the frequent occurrence of adhesive pericarditis in rheumatoid arthritis has been recognized in virtually all pathological investigations of this subject. In more than one-quarter of all cases of rheumatoid arthritis, fibrous obliteration of the pericardial cavity occurs for which there is no explanation other than rheumatoid arthritis. However, the clinical observation of pericarditis is far less fre-

quent than the pathological findings would suggest. Nevertheless, the hearts of patients who have had rheumatoid arthritis, frequently have morphological changes at necropsy that had not been apparent clinically. Hence, it appears that cardiac lesions, indistinguishable from those of rheumatic fever, may be more prevalent in cases of rheumatoid arthritis than in the general population. The case history which follows illustrates such a case with rheumatoid arthritis with cardiac lesions indistinguishable from those of rheumatic fever.

Case Summary

This patient is a 55-year-old white married housewife.

C. C. Sore, painful joints and shortness of breath.

P. I. This patient had worked unduly hard for many months prior to the onset of the present illness helping her husband with his laboratory and doing her own housework; and as a result of these activities she had become very tired both physically and mentally. Stiffness and lameness in the fingers, hands and ankles were the symptoms first noted about the middle of July, 1952. The metacarpal-phalangeal joints were tender and slightly swollen and she noted that doing a washing by hand aggravated the joint pain. Walking made her ankles more lame and stiff.

The patient first sought medical advice on the 25 August, 1952, and has continued treatment since that time. When first examined, there was redness, swelling and tenderness on pressure over the phalangeal-metacarpal joints of both hands and over the proximal phalangeal joints. The grip was impaired in both hands and there was some atrophy of the interossi muscles. Neither ankle joint showed any objective evidence of rheumatism; but there were subjective complaints of tenderness on motion and on pressure over both of these joints. The other joints showed no objective evidence of arthritic involvement.

Salicylates were begun in doses of 20 grains four times a day along with a quarter grain of phenobarbital four times a day. She was symptomatically improved on this treatment.

Easy fatigability and shortness of breath on hurrying and on climbing stairs was first mentioned by this patient on September 8, 1952; but no especial significance was attached to this complaint at that time since there were no objective evidences of cardiac impairment or of congestive failure.

The patient was started on injections of 1000 micrograms of vitamin B12 twice a week on September 22, 1952, and continued along with 20 grains of salicylates four times a day until December, 1952. The signs and symptoms and the swelling and tenderness in the ankles and in the hands gradually lessened during the fall months until she accompanied her husband on a hunting trip the last week in November. Despite the fact that she remained in camp and did no work, she noted increased fatigue and more shortness of breath. When she got back home she was so short of breath that she could hardly get out of bed in the morning.

Physical examination showed almost no objective evidence of arthritis. There was a rather puffy appearance to the face and there was marked dyspnea on exertion. Blood pressure was 98/68 and a rapid heart rate of 90 was noted at rest. Rales were heard at both lung bases and there was a little pitting edema of the lower legs and ankles. Fluoroscopy showed free fluid at the left base and moderate hilar congestion. An electrocardiogram showed low R waves and low T waves in all leads. (Figure I) She was

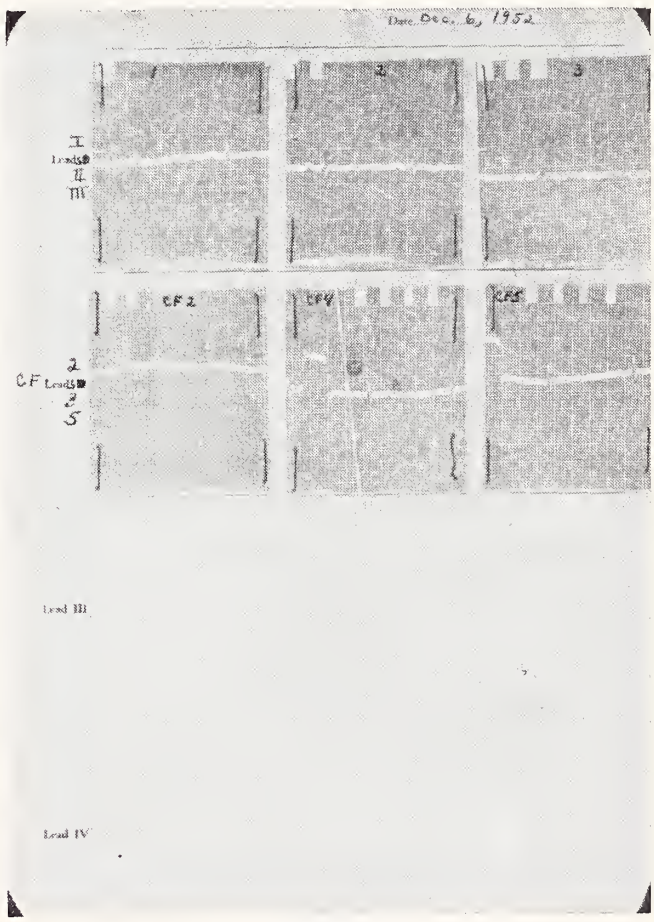

Figure I

referred to the hospital for treatment on December 6, 1952. Chest X-ray showed a moderate degree of cardiac enlargement involving chiefly the left ventricle. Infiltrative changes were present at both bases, more marked on the left side. The upper lung fields were clear. The sedimentation rate was 6 mm. per hour and the blood count was normal.

The patient was put at bed rest, digitalized with 19½ grains of the drug and started on ammonium chloride. She received two injections of 2 c.c. of Mercuhydrin during the first four days and with this therapy she was less short of breath. Joint symptoms

began to return without medication and the patient was put back on salicylates.

An electrocardiogram taken 12 days after entry showed a prolonged PR interval of 0.24 second, low R waves and inverted T waves in leads I, II, V3, V4, V5 and V6. It was decided to omit digitalis for a few days on the chance that the drug was responsible for the further electrocardiographic changes. A repeat tracing four days later showed a further increase to 0.28 second and no improvement in the amplitude of the R waves and no return of the ST or T segments toward the upright position. (Figure II) The sedimentation rate increased to 15 mm. per hour.

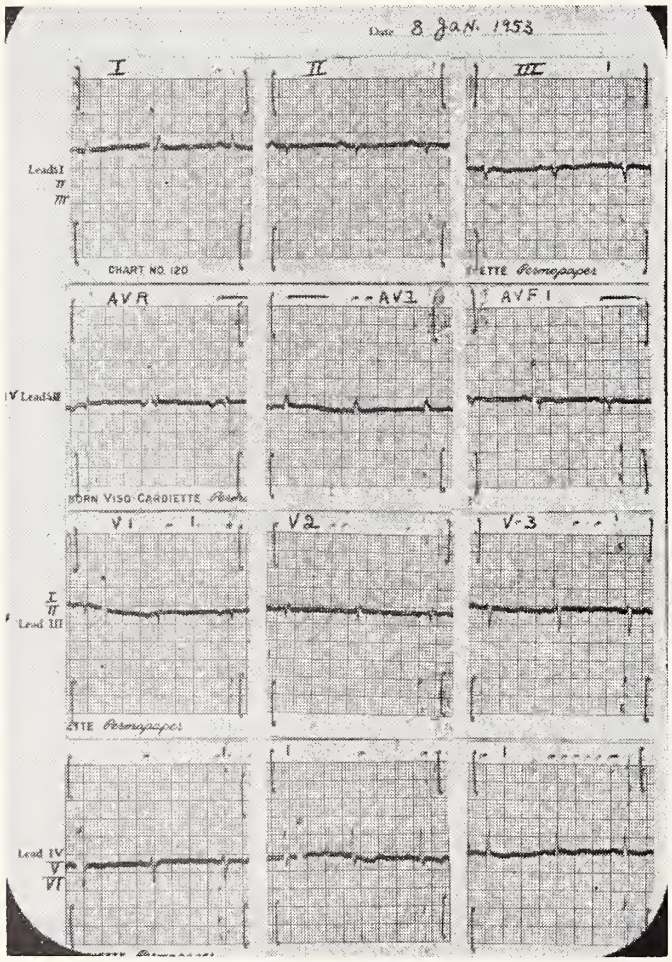

Figure II

A diagnosis of rheumatoid arthritis with cardiac involvement was made on the basis of the above described electrocardiographic changes, the X-ray findings of an enlarged heart and the signs and symptoms of shortness of breath and easy fatigability. All previously prescribed medication was omitted and Cortisone mg. 25 q.i.d. was begun on the 19th day after entry to the hospital and has continued until the present time (October, 1953) except for one period of 36 hours when the drug was inadvertently left off on the fourth and fifth day after the medication was begun. The dose has now been reduced to 50 mgms. a day. A low salt intake has been maintained and additional potassium chloride has been prescribed.

All joint signs and symptoms promptly disappeared within a week after Cortisone was begun. An electrocardiogram on December 31, 1952, a week after Cortisone was begun showed a PR interval of 0.20 second and another, 8 days later, showed a PR interval of 0.18 second and T waves that have returned to an upright position in leads I and V6 and are almost back to the isoelectric position in leads II, V4 and V5.

The patient left the hospital on 9 January, 1953, and has gotten along very well since discharge. She has had no more serious trouble with the arthritis pain or discomfort in joints of fingers, hands and ankles. The rales have all cleared from the lung bases. An X-ray of the chest taken in June, 1953, showed complete disappearance of the pathological findings at the base of each lung on the original X-ray films in December, 1952, and January, 1953. Repeat electrocardiograms on 21 February, 1953, and again on 3 April, 1953 (Figure III) showed continued improvement. The A-V conduction time has returned to normal and R and T waves were improved. An electrocardiogram taken in September, 1953, showed all complexes to be within the limits of normal.

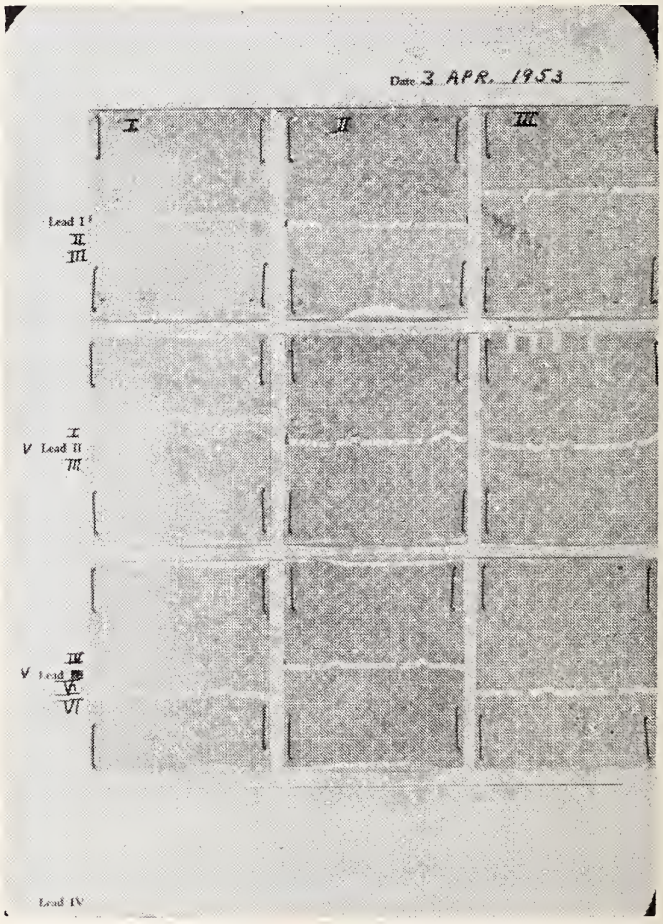

Figure III

Discussion

The case history has been presented of a 55-year-old married white woman who developed rather mild rheumatoid arthritis which was later complicated by signs and symptoms of cardiac impairment. X-rays showed an enlarged left ventricle and electrocardiograms showed auriculo-ventricular heart block, low R waves, depressed ST segments and inverted T waves. Clinical evidence of heart valve damage has not occurred thus far.

The clinical signs and symptoms of joint pain, swelling and tenderness disappeared and the auriculo-ventricular conduction times returned to normal within a few days after Cortisone therapy was begun. It required a longer period on hormone therapy before the T waves returned to the upright position and for the R waves to improve in amplitude.

Summary

1. A case of rheumatoid arthritis with clinical and laboratory evidence of cardiac lesions indistinguishable from those of rheumatic fever has been presented.

2. The signs, symptoms and the objective and laboratory evidence of arthritis and of heart involvement have disappeared on Cortisone therapy.

Comments on X-ray films of chest, by Clark F. Miller, M. D., Radiologist, Central Maine General Hospital, Lewiston.

Original chest films show X-ray changes, consistent with a chronic type of pulmonary infiltrative change at the left base, persisting for several weeks and strongly suggesting a localized bronchiectasis. The heart shows only a slight degree of enlargement which appears to be confined chiefly to the left ventricle.

Six months later a chest film shows complete disappearance of the pathological findings at the base of the left lung.

Pulmonary findings related to rheumatic fever and carditis fall broadly into two groups. Changes may occur during the acute phase of rheumatic fever which have been variously ascribed to rheumatic pneumonitis (whatever that may be), edema and allergic or anaphylactoid reaction in the lungs similar to that seen in the collagen group of diseases — i.e. periarteritis nodosa.

The second group comprises chronic passive congestion and its various possible roentgen manifestations—such as hemosiderosis giving the lung a dense, stippled appearance suggestive of pneumonoconiosis. These findings usually involve the upper and middle lung fields bilaterally and are associated with roentgen evidence of valvular disease.

The findings noted on this patient's chest films do not fall into either of these groups, and cannot therefore be easily explained in relation to the rest of the clinical picture.

General discussion by Charles F. Branch, M. D., Pathologist, Central Maine General Hospital, Lewiston.

In a general discussion of the pathology of rheumatoid arthritis one should stress the findings recently summarized in the fourth edition of the Primer on Rheumatic Diseases.[1] For years pathologists have recognized the fact that patients suffering with rheumatoid arthritis frequently present much evidence that the disease is not confined to the joints. More recently, its systemic manifestations have become accepted by many as a hallmark categorizing it as one of the "collagen diseases."

About 15% of all patients with rheumatoid arthritis present subcutaneous nodules having a histological structure similar to the nodules of rheumatic fever and in these nodules and the tissues about the involved joints structures similar to Aschoff bodies are not infrequently seen. These data may well correspond to the estimates of many authors that 15% of patients with rheumatoid arthritis also suffer from rheumatic fever. Several have reported figures higher than this.

As intimated by Baggenstoss and Rosenberg,[2] in their excellent review of the subject, the histopathological pattern either about the joints or in other tissues is far from pathognomonic. Microscopically, the active phase of the disease shows a periarticular swelling and edema, rapidly followed by increased vascularity, proliferation of the synovial cells to form a thickened membrane which frequently forms projections or villi into the cavity of the joint. Varying degrees of lymphocytic infiltration occur and not infrequently actual lymphoid follicles are formed. Monocytes and small giant cells are frequent. As the disease progresses there is gradual dissolution of the articular cartilage and invasion of the fibrous pannus by bone. Eventually, the trabeculae of bone from the two sides unite and there is bony ankylosis.

Although it in nowise explains the etiology, the muscular weakness and atrophy so consistently present in rheumatoid arthritis are easily accounted for by the focal accumulations of lymphocytes and plasma cells, without fibrosis but with advanced degenerative changes of the skeletal muscle fibers, accompanied by areas of callagen necrosis in the interstitial tissue.

With no further reference to the specific findings in rheumatic fever, particularly those changes in the heart, it is of considerable clinical significance to recall that two-thirds of Baggenstoss' cases showed a low grade, nonspecific glomerulo-nephritis. Whether this is a sequel or an accompaniment of the disease is not apparent. Pulmonary lesions of great variety have been described and we have found occasional evidence of acute arteritis in the peribronchial areas

of some specimens. Likewise, multiple nonspecific lesions of liver and bone marrow are frequently mentioned. In the former, everything from simple serous hepatitis to acute yellow atrophy have been reported. We have found occasional perivascular lesions in the portal canals which could easily be interpreted as fibrinoid degeneration. It is our experience that all pathologists quite consistently find that the reticuloendothelial system throughout the body shows proliferation and that the lesions of the spleen and lymph nodes include degeneration of the follicles, occasionally a true suppurative lymphadenitis and rarely, true amyloidosis. Perivascular lesions not dissimilar to some aspects of the acute phases of periarteritis nodosa have been encountered in practically all parenchymatous organs as well as in the skeletomuscular system.

1. Primer on the Rheumatic Diseases, J. A. M. A., 152:323, May 23, 1953; ibid., 405, May 30, 1953; ibid., 522, June 6, 1953.
2. Baggenstoss, A. H., and Rosenberg, E. F.: Arch. Path., 35:503, April, 1943.

HYPERLEUKOCYTOSIS AND MACROCYTIC ANEMIA RESULTING FROM CARCINOMA OF THE ILEUM

Case Report

Milan A. Chapin, Ph. D., M. D.*

According to Kracke[1] marked leukocytosis (more than 40,000 white blood cells) most commonly results from severe infections, intoxications, and acute blood loss. Hughes and Higley[2] have noted its occurrence, less frequently, in such other conditions as: acute hemolysis, necrosis of bowel, dehydration, acute pulmonary edema, massive atelectasis, status asthmaticus, infectious mononeucleosis, myocardial infarction and necrosis-neoplasm. Patients presenting this laboratory finding are first suspected of having leukemia or a leukemoid reaction. These are excluded in the differential diagnosis by the absence of sufficient numbers of immature leukocytes in the peripheral blood. By definition, the leukemoid reaction is a transient appearance of large numbers of immature myeloid cells in the peripheral blood. While the association of malignancy with leukocytosis has been noted sporadically, the fact that a marked leukocytosis may occur is less generally known, and, when reported, it has been under the terminology of a leukemoid reaction.[3, 4, 5]

Macrocytic anemia is an infrequent but known result of stenosing lesions of the lower small bowel and cecum. It stimulates pernicious anemia in certain respects. It has been reported to be the result of various organic abnormalities of the ileum or cecum which have caused some stenosis of the bowel. Apparently, there occurs either a failure of absorption or a destruction of the hematopoietic factor in long continued partial obstruction of this portion of the intestine.

This case is presented to illustrate the simultaneous occurrence of both a marked leukocytosis and macrocytic anemia in a patient with carcinoma of the ileum.

* From the Medical Division, Central Maine General Hospital.

Case Report

A sixty-year-old white male shoeshop worker was admitted to the Central Maine General Hospital, March 6, 1952, complaining chiefly of weakness and "stomach trouble" of one year's duration. His health previously had been good. During the preceding year there was gradually increasing vague upper abdominal distress consisting of gas, bloating, sour stomach and frequent vomiting of recently ingested food, without hematemesis. He had not had cramps or pain. There was no association of symptoms with type of food or with meals. Variable, inconstant relief had been obtained with magnesia, milk or soda. He had voluntarily refrained from eating coarse foods and vegetables as well as much meat because he felt these increased his distress. There had been no lower abdominal symptoms, constipation, diarrhea or melena. For some months his physician had advised an ulcer regime with belladonna before meals. This had not been of significant help. He had also been given vitamins and iron tablets for a clinical anemia. No soreness of the mouth or tongue and no numbness or tingling of the extremities had been noted. He had lost about five pounds in weight in the preceding month. His past and family histories were not remarkable.

On physical examination, the main finding was a generalized grayish pallor. The temperature was 98.0°F., pulse 82, respirations 20, and the blood pressure 116/76. He was well developed but quite thin (he had never weighed over 130 and his present weight was 117 pounds). Eight remaining teeth were in poor repair. There was no adenopathy. The abdomen was soft without distention, spasm, tenderness, or palpable masses. The liver and spleen were

of normal size and the rectum not remarkable. The neurological examination was normal.

The red-cell count was 3.4 m., and the hemoglobin 6.5 gms. (42%). The white-cell count was 19,000 with a differential of 80 polymorphonuclears, 15 lymphocytes, 3 monocytes and 1 eosinophil. The reticulocytes were 1 per cent. The blood smear revealed platelets in normal number and macrocytes to be present. Urinalysis was not remarkable. Two stools were negative on guiac testing. The Westergren sedimentation rate was 26 mm./hr. The icteric index was 10 and a fragility test normal. The serology was negative. The vomitus on one occasion contained free HC1 to Congo red paper test and a negative guiac test. Roentgenographic study of the chest, gall bladder and gastrointestinal tract revealed no abnormal findings.

Because of urgent circumstances at home, he was discharged from the hospital March 10, 1952, before a full work-up could be obtained. Shortly thereafter, in view of the earlier failure of iron therapy, his physician administered vitamin B12, 25 micrograms, intramuscularly, twice weekly. The response to this was gratifying and within one month he felt stronger, was eating better, had gained a few pounds weight and was desirous of resuming his occupation. The hematologic improvement as well as subsequent blood count results are shown below.

During the summer, three months after his hospital discharge, he developed a cough productive of small amounts of mucoid sputum which gradually became more pronounced. With this, there was a return of weakness, slight weight loss and upper abdominal distress. A chest roentgenogram in August was negative. In January, 1953, his sputum became blood-streaked and by this time he had lost some 18 pounds in weight. A chest roentgenogram revealed a small rounded area of density in the right mid-lung field.

He was readmitted to the hospital 1/31/53. Again, his main findings were those of inanition, generalized pallor and weakness. There was no fever. Except for a smooth liver edge palpable 4 cm. below the right costal margin, there were no abnormal physical findings. A repeat barium enema was negative. Because of the strong possibility of abdominal carcinomatosis with metastases to the lung and liver, an abdominal laparotomy was accomplished 2/1/53. The liver seemed large and smooth and the stomach was normal. Low in the abdomen at the pelvic inlet there was palpable an irregular firm mass the size of a baseball. This was fixed and seemed to involve several loops of bowel. Resection was deemed inadvisable, a biopsy was obtained and the abdomen closed. Microscopic examination of the specimen revealed adenocarcinoma.

The subsequent course was one of marked deterioration with bowel obstruction, rapid enlargement of the metastasis in the right lung and death three weeks later. An autopsy was not obtained.

Date	*Hgb%*	*RBC*	*C.I.*	*WBC*	*P*	*St.*	*L*	*M*	*E*
2-21-52	65.8	3.52	0.9	24,000	79		15	6	
3- 6-52	52.0	3.40	0.8	19,000	80		15	3	1
3-11-52	57.0	2.63	1.1	21,000	80		19		1
4-30-52	58.7	2.48	1.2						
5-30-52	73.5	3.20	1.1						
6- 3-52	72.0	3.60	1.0	36,000	82		17		1
8-22-52	89.7	4.51	1.0						
11-16-52	85.3	3.66	1.2	78,000	91		9		
12- 4-52	83.6	3.74	1.1	71,800	84	7	9		
12-19-52	82.6	3.66	1.1	78,000	81		14		5
1-22-53	49.0	2.30	1.0	44,500	86	7	6	1	
1-26-53	58.0	2.70	1.0	64,800	86	9	4	1	
2-13-53	57.0	2.90	1.0	77,000	73	23	4		

Discussion

The striking feature in the laboratory findings during this patient's terminal illness was the increased white-cell count. This persisted in the range of 40,000 to 80,000 for five months. At no time was there evidence of leukemia, of a leukemoid blood picture or of bone marrow involvement. Surprisingly, also, was the fact that until the month before death when stab cells were present in the peripheral blood smear, all leukocytes were preponderantly of mature type. Of equal interest was the maintenance of the same general differential count in spite of variations in the total white-cell count of 20,000 to 80,000.

Because of the fact that during the year or more in which this patient was under observation there were no findings or signs suggestive of infection, the conclusion is forced that this neutrophilic leukocytosis was the result of the small bowel carcinoma. According to Kracke,[1] pathologic leukocytosis may occur in malignancies, especially if far advanced, unaccompanied by infection. While the mechanism of this stimulation effect upon the bone marrow and on production of neutrophils in particular is not known, it is known that substances obtained from the cytoplasm of leukocytes can stimulate leukocyte production, and, also, that cytoplasmic extracts (sodium nucleinate and pentose neucleotide) can produce a sustained leukocytosis. It may be that rapid breakdown by necrosis of malignant cells with absorption of similar substances serves as a means of inducing leukocytosis.

Shoemaker, in 1910,[6] reported a case of carcinoma of the stomach with a leukocytosis of 125,000. Krumbhaar, in 1926,[5] described a patient with carcinoma of the breast whose white cell count was 120,000. A case of carcinoma of the stomach with leukocytosis of 51,000 was also described by Owens and Walker in 1934.[7] Two other cases of carcinoma of the stomach with white-cell counts of 110,000 and 198,000 were reported by Meyer and Rotter.[4] Hinshaw and Hoxie[3] found a leukocytosis of 101,000 in a patient with carcinoma of the lung. Hughes and Higley[2] reported a leukocytosis of 88,000 in a patient with a carcinoma of the adrenal gland.

A notable feature of these reports of extreme leukocytosis resulting from malignancy is the reference to lack of immaturity of the cells. In all of the above reported cases no suggestion of leukemoid reaction was present. This feature was quite apparent in the case reported above. It would seem apparent, therefore, that these are instances of extreme leukocytosis rather than leukemoid reactions, as frequently reported.

In addition to the sustained high white-cell count, this patient presented laboratory finding of a macrocytic anemia resembling, but not showing, the characteristics of pernicious anemia. Free hydrochloric acid was present in the stomach contents and there was neither glossitis nor neurological abnormality. Whereas the initial blood smears revealed frequent macrocytes, it was not until after the administration of vitamin B12 that this became even more pronounced with a persistently elevated color index. At no time was there the distinctive smear of pernicious anemia with polychromatophilia and anisocytosis. Most of the erythrocytes were evenly stained and the smaller cells were neither markedly small nor irregular.

Another revealing aspect of this patient's course was the dramatic symptomatic improvement after institution of vitamin B12 therapy. This response, occurring after an unrevealing gastrointestinal study, gave both the patient and his physician a temporary feeling of security and optimism.

It is well known that lesions of the intestinal tract can cause a mycrocytic anemia. Leading examples are those of steatorrhea and sprue. Butt and Watkins[8] reviewed this subject in 1936, demonstrating that a variety of conditions may be present in the small or large bowel while exhibiting a macrocytic anemia. They reported 20 cases in which an anemia was associated with lesions of the ileum or cecum, comprising ileitis, ulcer of ileum, carcinoma of cecum, fecal fistulas, tuberculous ileitis, chronic ulcerative colitis and one case of carcinoma of the ileum. Eleven of the twenty cases presented a macrocytic anemia. They concluded that lesions giving either diarrhea or partial obstruction may result in impaired absorption or utilization of the hematopoietic principle. Successful operations in several of these cases resulted in cure of the anemia. In some cases there had been no response to parenteral liver extract.

In 1949, Cameron, et al.[9] reviewed the subject of macrocytic anemia associated with intestinal stenosis and anastomosis and concluded that the anemia is probably due to stagnation of intestinal contents as well as absorption of toxic substances.

Summary

A case is reported of carcinoma of the ileum which resulted in the appearance of two somewhat unusual laboratory findings: (1) a sustained hyperleukocytosis, and, (2) a macrocytic anemia. The differential characteristics of a leukemoid reaction and pernicious anemia are emphasized. A brief review of the pertinent literature is noted.

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A MODIFIED POMEROY STERILIZATION

Eben T. Bennet, M. D., Portland, Maine

Sterilization by tubal ligation is one of the most commonly performed of all abdominal operations. Because of its simplicity, it is probably performed by more surgeons and obstetricians in more hospitals than any other major surgical procedure except appendectomy. The purpose of this brief communication is to present a proposed modification in the Pomeroy type of tubal ligation.

A few words might be inserted here parenthetically regarding the indications for this operation. Sterilization is a much-abused procedure. It should be performed only for valid and sufficient reason. Wholesale sterilizations on nebulous indications cannot be too strongly condemned. Socio-economic circumstances cannot be made the basis for decision. The physician must be scrupulously honest with himself as well as with his patients in the selection of candidates. We feel that patients under the age of

thirty should not be sterilized for multiparity because of the possibility of future widowhood or divorce with subsequent remarriage and the desire for more children. By and large, sterilization should be done only when pregnancy would definitely endanger the mother's physical well-being—severe cardiac or renal disease, recurrent toxemia, great multiparity, etc. We define great multiparity as six or more term pregnancies. After three Caesarean sections the patient may be offered sterilization because of the possibility of rupture of the scar in a future pregnancy. In all cases it is essential that the patient and her husband fully understand the irreversible nature of the procedure.

The requirements for a method of sterilization are essentially two — that it be effective in preventing future conception, and that it be technically simple, rapid and as complication-proof as possible.

No operative procedure short of bilateral oophorectomy has proved 100% conception-proof, although the rare reported cases of pregnancy following some type of hysterectomy are actually medical curiosities. However, post-partum hysterectomy is an operation of too much magnitude ever to be practicable as the standard method of sterilization. Likewise, bilateral salpingectomy with cornual resection involves a fair amount of surgery for the occasional operator, and with it the ovarian blood supply may be compromised. The Irving technique, in which the tube is divided and the proximal end buried within a pocket of the uterine wall, is sometimes troublesome to perform and has found very limited favor. In actual practice, tubal ligation of the Pomeroy or Madlener type is by far the most commonly performed kind of post-partum sterilization.

The Madlener technique involves the simple ligation of a knuckle of Fallopian tube. It has been found subject to a rather high percentage of failures, and has been generally abandoned in favor of the Pomeroy.

The Pomeroy is probably the method of choice in post-partum sterilization today. It consists of picking up the tube so that a knuckle is formed; this knuckle is ligated with catgut and the distal portion of it is excised. Post-operatively, following absorption of the suture, the two ends of the tube pull apart and come to lie an appreciable distance from each other; the raw ends of the tube become sealed over by exudate. In other words, the effectiveness of the operation does not depend upon permanent occlusion of the tubal lumen by the ligature. Indeed, it is essential that the tie on the tube be of catgut so that it can absorb and the two ends can separate.

The incidence of failure after Pomeroy sterilization would appear to be of the order of 1 in 250 to 400 cases, judging by various reported series. Although this is not inordinately high, each individual instance of subsequent pregnancy causes considerable consternation.

It has occurred to us that these failures may be related to a failure of the tubal ends to separate following operation. In fact, one would think that this might happen rather often, because the raw ends of the tube, being held close to each other for some length of time, might tend to become adherent with failure to separate.

In order to obviate or decrease the possibility of non-separation, the variation to be presented has been evolved. Because of its simplicity it has probably been used many times before, and no claim for originality is made; however, a search of the literature has failed to reveal it in print. Due to the great frequency with which post-partum sterilization is performed, it is felt worthwhile to present the following method for cases in which some sort of tubal ligation is contemplated:

The abdomen is opened by a low midline or modified Pfannenstiehl incision (we often use the latter for cosmetic reasons). The tube is picked up at about its central portion by a Babcock clamp or ring forceps. The mesosalpinx is inspected and a relatively bloodless area near the tube is located. This area is pierced with the tip of a straight clamp, and the ends of the clamp are then spread to enlarge the opening. In this manner a segment of tube about an inch long is freed from the mesosalpinx. Each end of this segment is clamped, and the intervening inch or so of tube is excised. The clamps are now replaced by ties of non-absorbable suture material such as cotton or silk. If desired each tie may be re-inforced by a suture-ligature. The same steps are carried out with the other tube. The abdomen is then closed.

This procedure is rapid and atraumatic. The desired end results of the Pomeroy sterilization are assured, with the added protection against future recanalization afforded by the use of non-absorbable ties to occlude the tube. There is practically no increase in technical difficulty or time required over the standard Pomeroy procedure. Except for the theoretical chance of producing a torn blood vessel or hematoma while enlarging the initial opening in the mesosalpinx, it is almost impossible to run into technical difficulty.

This modification of the Pomeroy sterilization has been used by us in a small number of cases with entirely satisfactory results so far. Its adoption is suggested on the grounds of great simplicity plus great effectiveness.

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Third District,	Ralph P. Earle, M. D.,	Vinalhaven	Sixth District,	Richard C. Wadsworth, M. D.,	Bangor

Maine Hospital Association

Frederick T. Hill, M. D., Waterville

Pearl R. Fisher, R. N., Waterville

EDITORIAL SECTION

Penobscot County Entertains and Instructs

On the 25th and 26th of October the Penobscot County Medical Society provided the program for the Fall Clinical Session. And the Queen City of Bangor was the scene of a lively and instructive meeting. The program in all respects fulfilled the requirements for an enjoyable social gathering and an inspiring scientific conference.

On Sunday evening a large and happy crowd of doctors and wives joined up at the Bangor House for a good dinner and a bright, informative address by Dr. Sara M. Jordan on Digestion, Diet and Doctors. Dr. Jordan in a quiet and effective manner portrayed in simple language the Drama, as she termed it, of digestion; carefully evaluated the objectives of diet, and in conclusion integrated the doctor and his ever-patient spouse into the subject. In a straightforward, convincing and graceful manner she told us all a good many things that helped us to understand the recurring troubles of the gastro-intestinal tract and how to deal with them in a rational way.

On Monday, at the Eastern Maine General Hospital, the members of the Penobscot County Medical Society presented a group of clinical reports on a variety of subjects. The meeting at the hospital was well attended and enthusiastically received. The subjects presented were designed to interest and to aid the general practitioner. And from this observer's point of view they succeeded admirably. Every speaker spoke concisely and with a well merited assurance on his chosen subject. During the morning session Dr. Jordan offered comments and propounded questions for discussion; in the afternoon Dr. Neuhauser took over the role of commentator. Their remarks both elaborated the reports and stimulated the gathering.

On Monday evening, again at the Bangor House, the doctors without their wives gathered to hear Dr. Edward B. D. Neuhauser present the subject of Pediatric Roentgenology in General Practice. With the aid of especially selected lantern slides and a rich experience in pediatric X-ray, he carried his audience through a series of cases which general practitioners, sooner or later, would be bound to encounter in a regular general practice. It seemed to the writer that he was developing in a sincere spirit a plea for early diagnosis of the defects and injuries of infants and children and thereby offer them early treatment and a chance for a happy and useful life.

It was a good meeting. The Woman's Auxiliary turned out in large numbers, attended the Sunday night dinner and address by Dr. Jordan and had a busy schedule on Monday. We think that the Penobscot County Medical Society deserves hearty thanks for their achievement. We believe that the spirit and the quality of the session equals that of similar meetings anywhere. Post-graduate medical education was offered in an attractive form. There were many favorable factors present. The attending doctors were from all sections of the State with a heavy sprinkling from the towns of Eastern Maine. They were friends, old and new, and fellow members of our State Association. All felt free to start discussions, ask questions, and agree or disagree with his fellow members. It was an occasion for picking up facts and figures that would prove helpful in General Practice; good post-graduate education.

Christmas Seal Sale

For many years the Christmas Seal Sale has been generously supported by the people from all walks of life. With the funds received from the sale of the familiar seals gratifying progress in the control and eradication of tuberculosis has been made. The improvement in our mortality rate of T.B., however, does not mean that the fight is over. It means that the dollars contributed have been used wisely and well to educate the American people about T.B. and to maintain a great organization which has learned from experience how to combat the enemy.

This year, as every year, more money is needed to hold the line and to advance when possible. The Maine Tuberculosis Association is a well-knit, effective agency which keeps at work week in and week out to spread the gospel of T.B. control and to offer aid and comfort to the victims of the disease. The Association has plans for extending its work to all sections of the State. And the rapidity and success of the extension into sections which need help is dependent upon adequate funds.

The Maine Medical Association has approved the work of the Maine Tuberculosis Association and has co-operated in every way. We bespeak your support in this year of our Lord, 1953, and hope that you will buy and use an abundant supply of these little symbols of good cheer.

Interim Legislative Studies

Two matters of interest to the medical profession are under study now by the Legislative Research Committee.

It might be well to call attention to the fact that this Research Committee meets and does its work when the legislature is not in session. It has the time, facilities and opportunity to study and explore problems and seek their solution calmly and carefully, without the pressure of immediacy which is upon the joint standing committees of the legislature when that body is in session.

The well known and constantly recurring problem of "State Aid to Hospitals" is being explored again. Last session (1953) an attempt was made to substitute a radically different program. This was defeated and the old system of Hospital Aid with a provision that an attempt be made to have specified responsible relatives pay if possible, added. In 1953, appropriations of $1,100,000 per year were made for the biennium. This amount is about twice the appropriation of seven years ago, is wholly State money, and now is the appropriate time to work with the Legislative Research Committee to see if any other method is more desirable for handling this matter.

At the request of the Maine Medical Association this Research Committee has undertaken the study of Public Health Services in Maine. If the people of the state want a system of public health supported and administered pretty largely at the state level, the difficulties are not too great nor too perplexing. If however the ideal is a public health service administered as near to the local level and as close to the people served as possible, there are many, difficult problems. I have assumed and have been told by many doctors, that a good local public health service is what we want and should work toward.

The first difficulty arises from the fact that existing law, in practice requires every city, town, and plantation in the state to have its own local health officer, which is the basis of a local public health service. Obviously the City of Portland with 75,000 plus population can pay for a basic minimum public health service headed by a competent well trained public health officer. Just as obviously my home town of Hope with 500 population cannot. While there is permissive legislation for a union of towns for public health services, there is no legislation for a term of time for such a union long enough to give a public health unit any tenure.

At the hearing before the Committee in Augusta, Wednesday, October 21st, there was a good representation of doctors from Maine Medical Association. Dr. Dean Fisher, Director of the State Bureau of Health, presented a report on the present functions of that Bureau which portrayed the fine progress that the Bureau has made in extending public health services through the State. His statement as to local health organizations is as follows:

"Each town is required by law to appoint a local health officer. Obviously very few can be on a full-time basis and even fewer can have any appreciable technical training, or organization, with which to work. With one or two exceptions, only the larger cities offer more than token compensation."

This then, is the problem which we face in our State:

1) We have few if any adequate local public health programs.
2) Existing laws actually make it difficult or impossible to set up an adequate local system.
3) We have no background experience in an adequate local public health system and no public

education as to what such a system should include.

The Legislative Research Committee appears impressed that there is a problem and a need. The Maine Medical Association should give informed guidance. It is a mixed question of, what is needed for good public health services and, what is possible through governmental operation. The opportunity is here to do something most valuable and beneficial for the people of Maine.

Executive Secretary.

Medical Education

Every member of the Maine Medical Association must be fully cognizant of the purpose of the American Medical Education Foundation, i.e., "To stabilize American Medical Schools and permit them to continue operations at present and ever expanding levels . . ." Our 79 standardized schools are graduating more than 6,000 highly trained young doctors each year. The unrealized financial need of these institutions approximates $10,000,000 annually. The Foundation has set a goal of $2,000,000 for its share to be contributed by the most interested segment of the population, the doctor himself.

In 1952 forty of us made contributions of approximately $1,400 to this meritorious cause. A gift to the American Medical Education Foundation may be earmarked for a particular school to receive the entire amount while the total volume of the fund will be considerably augmented, a factor of no small import in obtaining contingent gifts from other sources.

During the present month each subscriber to the *Journal of the American Medical Association* will receive an individual letter discussing the subject of tax savings and contributions. This communication from Dr. McCormick should prove of interest. However an individual gift of $25.00 could be made by most of us without profound economic ponderings. I am hoping that in the closing months of 1953 ten times forty physicians of Maine will make a minimum gift of $25.00 each for the support of American Medical Education.

C. Harold Jameson, M. D.,
Maine Chairman, A. M. E. F.

Send your check to:

The American Medical Education Foundation
535 North Dearborn Street
Chicago 10, Illinois

THE COUNCIL REPORTS

The summer meeting of the Council of the Maine Medical Association, which was held at Squaw Mountain Inn, Greenville, on Sunday, August 30th, was called to order at 3.20 P. M. by the Chairman, Dr. William F. Mahaney of Saco.

The following Council members were present: Drs. Norman H. Nickerson, Robert W. Belknap, William F. Mahaney, Currier C. Weymouth, Francis A. Winchenbach, Maurice E. Lord, Karl V. Larson, Armand Albert and Eugene H. Drake. (Dr. Martyn A. Vickers of Bangor was not present.) Others present included: Dr. Richard C. Wadsworth of Bangor, Chairman of the Committee on Arrangements for the Fall Clinical Session; Dr. Ralph C. Stuart of Guilford, Chairman of the Scientific Committee; W. Mayo Payson, Executive Secretary and Esther M. Kennard, Secretary-Treasurer.

Fall Clinical Session

Dr. Wadsworth presented an outline of the program for the Fall Clinical Session to be held in Bangor, October 25 and 26, which was approved by the Council.

1954 Annual Session

The 101st Annual Session will be held at the Samoset in Rockland on June 13, 14 and 15, 1954. Plans for this meeting were discussed by Dr. Stuart and Council members and it was agreed that the type of program be left to the Scientific Committee. A report of their plans will be presented at the October meeting of the Council.

Special Committees

It was voted that the Special Committees remain as at present and that they be referred to the Committee on Committees for study and report at the interim meeting of the House of Delegates. (The Special Committees for 1953-1954 were published in the September issue of the Journal, page 274.)

American Medical Education Foundation Committee

It was voted that this committee, which consists of the following members, remain as is:

C. Harold Jameson, M. D., Rockland, Chairman.

1st District—Donald F. Marshall, M. D., Portland.

Continued on page 325

Various factors during pregnancy (intestinal displacement, atony, inactivity) make it virtually impossible for most women to go through the gestation period without constipation.

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Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

1. Greenhill, J. P.: Principles and Practice of Obstetrics, ed. 10, Philadelphia, W. B. Saunders Company, 1951, pp. 103-104; 311; 332.

SEARLE Research in the Service of Medicine

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Secretary, Norman O. Gauvreau, M. D., Lewiston

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York
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Secretary, C. W. Kinghorn, M. D., Kittery

COUNTY SOCIETY NOTES

Cumberland

Ray Adams, M. D., Chief of the Neurological Service of the Massachusetts General Hospital and Assistant Clinical Professor of Neurology at Harvard Medical School, was guest speaker at the spring meeting of the Cumberland County Medical Society held at the Maine General Hospital, Portland, May 22, 1953. Dr. Adams' subject was Diagnosis of Vascular Diseases of the Brain.

RALF MARTIN, M. D.,
Secretary.

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, October 14, 1953.

The meeting was opened by the president, Herbert T. Wilbur, M. D., of Southwest Harbor.

Karl V. Larson, M. D., of East Machias, district councilor, spoke briefly on future meetings of the Maine Medical Association.

Robert J. Barrett, M. D., of Bangor, gave a very interesting and instructive talk on Treatment of Common Skin Disorders.

ARTHUR M. JOOST, JR., M. D.,
Secretary.

Kennebec

A regular meeting of the Kennebec County Medical Society was held at the Augusta House, Augusta, September 17, 1953, with supper at 7.00 P. M. served to twenty-nine members and guests.

Kurt A. Sommerfeld, M. D., president of the society, presided at the business meeting which was called to order at 8.00 o'clock. He appointed the following committee to write resolutions on the deaths of Howard A. Milliken, M. D., Hallowell; and Elmer H. Jackson, M. D., Augusta:

Roland L. McKay, M. D., Chairman
Roscoe L. Mitchell, M. D.
William J. O'Connor, M. D.

Willard E. Cummings, M. D., of Togus; and Jon S. Tchao, M. D., of Waterville; were elected to membership.

S. Charles Kasdon, M. D., of Boston, guest speaker, was introduced by Dr. Sommerfeld. Dr. Kasdon's subject was Pre-invasive Cancer of the Cervix.

A. H. MORRELL, M. D.,
Secretary.

Frederick T. Hill, M. D., of Waterville, was elected chairman of the fifteen-member Advisory Council on Health and Welfare, at the first meeting of the committee in Augusta, October 21.

The committee, which consists of members from the fields of health, welfare and the public, was created by the 1953 State Legislature to supplant a former department advisory council. It will study the functions of the department and advise the commissioner.

Maurice A. Priest, M. D., of Augusta, retired as Health Officer for District No. 3, on July 31 after seven years of service with the State of Maine Department of Health and Welfare. Dr. and Mrs. Priest left in September to spend a year in Deland, Florida.

Knox

Oram R. Lawry, Jr., M. D., president of the Knox County Medical Society, presided at a dinner meeting of the Society, Tuesday evening, October 13, 1953, at the Copper Kettle, Rockland, Maine.

Norman H. Nickerson, M. D., of Greenville, president of

the State Association, was present and spoke briefly. Mr. W. Mayo Payson and Mrs. Esther M. Kennard from the Association's office in Portland, were present also.

Dr. Hugo Hochschild of North Haven, was elected to membership.

BARBARA G. LUCE, M. D.,
Secretary.

Oxford

The annual meeting of the Oxford County Medical Society was held at the Bethel Inn, Bethel, on Wednesday, October 14, 1953. The following officers were elected for the coming year:

President, Thomas P. Nangle, M. D., West Paris.

Vice-President, Harry L. Harper, M. D., South Paris.

Secretary-Treasurer, Dexter E. Elsemore, M. D., Dixfield.

Councilors: Walter G. Dixon, M. D., Norway (1 year); H. Louella Noyes, M. D., Rumford (2 years); John A. Greene, M. D., Rumford (3 years).

Delegates to the Maine Medical Association: Peter B. Aucoin, M. D., Rumford (1 year); James A. MacDougall, M. D., Rumford (2 years). Alternates: Harry L. Harper, M. D., South Paris (1 year); John F. Hughes, M. D., Dixfield (2 years).

Norman M. Jackson, M. D., was re-elected to membership in the Society.

At the Scientific Session, George O. Bell, M. D., of the Lahey Clinic, Boston, presented a very excellent paper on Diagnosis and Treatment of Thyrotoxicosis.

DEXTER E. ELSEMORE, M. D.,
Secretary.

Washington

The annual meeting of the Washington County Medical Society was held in the Congregational Vestry, East Machias, on Thursday, October 29, 1953. There were twenty-three members and guests present.

After an excellent dinner served by members of the Ladies' Union Society, James C. Bates, M. D., President of the Society, presided at a brief business session. The following officers were elected for the coming year:

President, James C. Bates, M. D., Eastport.

Vice-President, Robert G. MacBride, M. D., Lubec.

Secretary-Treasurer, Karl V. Larson, M. D., East Machias.

Board of Censors: Samuel R. Webber, M. D., Calais (3 years).

Delegate to the Maine Medical Association: John T. Metcalf, M. D., Calais. Alternate: Oscar F. Larson, M. D., Machias.

Dr. Bates introduced Norman H. Nickerson, M. D., of Greenville, President of the Maine Medical Association, who spoke on the Group Accident and Health Insurance Plan.

George W. Wood, III, M. D., of Bangor, spoke on Tuberculosis, illustrating his talk with chest films. His address was followed by much active discussion.

The Washington County Medical Society is coöperating with the Maine Medical Association in conducting Diabetes Detection Week, November 15-23.

The next meeting of the society will be held in St. Stephen, New Brunswick, in January, 1954.

KARL V. LARSON, M. D.,
Secretary.

NEWS AND NOTES

Maine Academy of General Practice

Howard H. Milliken, M. D., of Hallowell, was elected president of the Maine Academy of General Practice, at a meeting of the society held in Augusta, October 21.

Francis A. Fagone, M. D., of Portland, was elected President-elect, and Clyde I. Swett, M. D., of Island Falls, retiring president, a member of the organization's board of directors for a three-year term.

The following new members were elected to membership in the Academy: Sidney R. Branson, M. D., South Windham; Peter B. Aucoin, M. D., Rumford; Daniel F. Hanley, M. D., Brunswick; Norman M. Jackson, M. D., Rumford; and Clement L. Donahue, M. D., Caribou.

Mental Health Clinic Schedule

The Division of Mental Health offers psychiatric clinic service to children and adults in the following cities:

Portland — Health and Welfare Department, 178 Middle Street. Every Tuesday.

Lewiston — Out-Patient Department, Central Maine General Hospital. Every Monday.

Augusta — Bureau of Health, Division of Mental Health. By Appointment.

Waterville — Mansfield Clinic, Thayer Hospital. 3rd Wednesday.

Bangor — Out-Patient Department, Eastern Maine General Hospital. 1st Wednesday afternoon.

Valentine School, Union Street. 1st Thursday.

A traveling clinic visits the following towns and cities at irregular intervals: Caribou, Houlton, Lincoln, Machias, Rockland and Rumford. The Portland Clinic is open daily with a staff of 1 psychiatric social worker and 1 psychologist. The psychiatrist is in attendance on Tuesdays. The other clinics are staffed by a psychiatrist and a psychologist.

Referrals may be made by private physicians, parents, families, school agencies, school superintendents, Department of Education, all divisions within the Department of Health and Welfare. Application blanks may be obtained from the main office of the Division of Mental Health — State House, Augusta.

Patients are seen by appointment only. Each child must be accompanied by a parent or guardian. Applications should be sent to the Director, Division of Mental Health, Department of Health and Welfare, State House, Augusta.

Tumor Clinics

Sisters Hospital, Waterville, Maine, 1st and 3rd Thursdays, 10.00-11.00 A. M., Armand L. Guite, M. D., Director.

Augusta General Hospital, Augusta, Maine, 1st Monday, 9.00 A. M., Leon D. Herring, M. D., Director.

Maine General Hospital, Portland, Maine, Thursdays, 10.00 A. M., Joseph E. Porter, M. D., Director.

Presque Isle General Hospital, Presque Isle, Maine, Thursdays, 10.00-12.00 A. M., Storer W. Boone, M. D., Director.

Madigan Memorial Hospital, Houlton, Maine, 2nd and 4th Wednesdays, 10.00-12.00 A. M., Joseph A. Donovan, M. D., Director.

Central Maine General Hospital, Lewiston, Maine, Tuesdays, 10.00 A. M., Ross W. Green, M. D., Director.

St. Mary's General Hospital, Lewiston, Maine, Wednesdays, 3.30 P. M., Romeo A. Beliveau, M. D., Director.

Eastern Maine General Hospital, Bangor, Maine, Thursdays, 10.30 A. M., Magnus F. Ridlon, M. D., Director.

Thayer Hospital, Waterville, Maine, Tuesdays, 10.00-11.00 A. M., Irving I. Goodof, M. D., Director.

COMING MEETINGS

Maine Medical Association, 1954 Annual Session, The Samoset, Rockland, Maine, June 13, 14 and 15. Dr. Ralph C. Stuart, Guilford, Maine, Chairman, Scientific Committee. Esther M. Kennard, 142 High Street, Portland, Maine, Secretary.

American Medical Association, Dr. George F. Lull, 535 North Dearborn Street, Chicago 10, Secretary.
1953 Clinical Meeting, St. Louis, December 1-4.
1954 Annual Meeting, San Francisco, June 21-25.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, December 14-16, 1953. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York City, December 11-12, 1953. Dr. Clarence C. Hare, 710 West 168th Street, New York 32, Secretary.

National Society for the Prevention of Blindness, New York City, December 18, 1953. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

Radiological Society of North America, Palmer House, Chicago, December 13-18, 1953. Dr. Donald S. Childs, 713 East Genesee Street, Syracuse 2, N. Y., Secretary.

IT'S NEWS!

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OUR MEDICAL LIBRARY GROWS

The following books have been received in the office of The Journal of the Maine Medical Association, thanks to the kindness of the publishers and our review-writing members. A review of each of these publications will appear in an early issue of the Journal and the book added to our ever-growing medical library.

Respiratory Diseases and Allergy (New Method of Approach) by Josef S. Smul, M. D.—Medical Library Company, 232 East 15th Street, New York, N. Y., 1953.

May's Manual of Diseases of the Eye, Twenty-First Edition Revised and Edited by Charles A. Perera, M. D. —Williams & Wilkins Company, Mt. Royal and Guilford Avenues, Baltimore 2, Maryland, 1953.

Fool's Haven, a novel by Clifford C. Cawley.—House of Edinboro, 21 Edinboro Street, Boston 11, Mass., 1953.

Films in Psychiatry, Psychology & Mental Health by Adolf Nichtenhauser, M. D., Marie L. Coleman and David S. Ruhe, M. D.—Health Education Council, 10 Downing Street, New York 14, N. Y., 1953.

BOOK REVIEW

Sexual Behaviour in the Human Female by Alfred C. Kinsey, Wardell B. Pomeroy, Clyde E. Martin, Paul H. Gebhard and others on the Staff of the Institute for Sex Research at Indiana University. W. B. Saunders Company, West Washington Square, Philadelphia, Pa., 1953. $8.00.

Sponsored by Indiana University, the National Research Council through its Committee of Research on Problems of Sex and aided by substantial sums from the Rockefeller Foundation, Dr. Alfred Kinsey has recently published, after fifteen years of investigation, his extensive treatise—"Sexual Behaviour in the Human Female."

The sponsoring committee from the National Research Council, consists of a Professor of Gynecology and Obstetrics from Washington University, St. Louis and Professors of Anthropology, Physiological Chemistry, Zoology, Embryology and Genetics from Harvard, Yale, University of Chicago and Michigan, etc., who thoroughly investigated and appraised Dr. Kinsey before giving him their approval.

The book is a compilation of data, tables and conclusions of 760 pages, selling for $8.00. It deals with the incidence and frequency that women participate in all the various types of sexual activity; premarital, marital, extramarital, homosexual and extracurricular, in detail. It makes comparison with the male and female, emphasizing that female response starts later and lasts longer, even into the sixties.

To the family physician, much of the book is second knowledge but the chapters on the anatomic psychological and physiological backgrounds of sexual response and particularly the section on the relation of hormones to sexual response may be interesting and possibly instructive.

The facts in the book were obtained from interviews with 5940 women, each interview lasting one and one-half to two hours during which time some 300 questions were asked. The women were all white and none had been in prison, although one might wonder why in some cases. Their occupations are listed from beauticians to college teachers, from dice-girls to hospital administrators, from actresses to housewives and from taxi drivers to paleontologists. They are from three educational groups: 1—terminated in grammar school, 2—ended in high school and 3—graduated from college.

To me it is amazing that the investigators could get women to talk so freely on these subjects in the allotted time and, while we perhaps should consider the findings as factual, when he quotes women as masturbating 10-20 and even 100 times in one hour or having 30 extramarital contacts in one week, I should feel, to use the college vernacular of my day, that these women were bragging.

The most controversial point in this book seems to be the authors' findings in favor of the fact that premarital intercourse with satisfactory orgasm is the real prediction that there will be satisfactory coitus after marriage. His statistics seem to back up this point. A girl who has been restrained emotionally from all contacts outside the family cannot, he says, by the magic of the marriage ceremony be adjusted to break down her inhibitions and make physical and emotional adjustments which will contribute to the solidarity of the marital relationship. He does give 20 reasons versus premarital coitus and twelve reasons for it.

The parts of the book describing the techniques of female masturbation to the nth degrees appear to me to be rather sordid while the various techniques of marital pre-coitus sex play might be important. The fact that among religious groups and devout people extra conjugal activities are less is another good argument for more religion. While the fact that women's sexual activities continue longer than with men is sad but true.

The fact that removal of the ovaries has no depressing effect on feminine enjoyment is well emphasized and also the findings that androgens have definite effect on promoting sexual response through their stimulation of the nervous system. Evidently much research can still be done on the effects of the pituitary, thyroid and adrenal cortex secretions, plus the 17 ketosteroids in this field.

Dr. Kinsey graduated from Bowdoin College and received his degree of Doctor of Science from Harvard. In 1920, he started his teaching career in Indiana University where he later became Professor of Biology, in which position he was known as an excellent and respected teacher. It was in 1942 that he got interested in the problem of sex behaviour and thoroughly convinced that no satisfactory scientific study of that subject was available. Since that time he has worked indefatigably days, nights and Sundays on his system of interviews so that he and his assistants have some 16 thousand case reports and I have read that it is their intention to eventually publish seven volumes on the subject.

In the analysis of this book there seems to be three great questions: 1—Is the book scientifically sound. 2—Does he put too much emphasis on climaxes in relation to sex enjoyment. 3—Does he emphasize too greatly sexual mental rapport and too little love and parenthood (especially motherhood) in the solidarity of the marital union. The facts in the book are not pleasant reading to the unsophisticated and especially to many women of religious background.

Many commentators give reasons why the book is not scientifically sound and others believe he over-emphasizes the climaxes. In answer to question 3, Kinsey does make the point that sexual compatibility is not the only nor even the most important condition for matrimonial harmony, but he certainly does bear down hard on its importance in the disharmonies that lead to marital breakdowns.

There is no doubt that Kinsey's books are the best treatises on the biological and functional aspects of sex behaviour yet produced. Dr. Kinsey is invited to speak before hundreds of organizations and the sale of his first volume has reached the 250 thousand mark. Yet all the fees from his lectures and royalties on his books are turned over to the Research Committee and his only salary comes from his professorship at Indiana. One cannot doubt the integrity of the man nor his earnest belief that through reading his books men and women will get along better since he feels the facts provided in this book will save many a marriage from the rocks.

Philip P. Thompson, Sr., M. D.

TUBERCULOSIS ABSTRACTS*

Issued by the National Tuberculosis Association

Tuberculosis Survey and the General Practitioner

By I. Phillips Frohman, M. D., Medical Annals of the District of Columbia, March, 1953.

In the first six months of 1952, as a general practitioner in private practice, I took X-ray films of the chest of 89 patients in the 3 to 76-year-age group in my office and discovered four cases of active, advanced tuberculosis in patients aged 19 to 55 years, which necessitated immediate hospitalization; in addition, there were two cases of silicosis. All of these were taken on 14 by 17 film. The percentage of diagnoses was approximately 4.4.

In contrast to this let us examine the figures from a mass chest X-ray survey in this metropolitan community.

In April and May of 1952 mobile X-ray units operated throughout southeast Washington, D. C. In a period of six weeks, 10,830 chest pictures were taken on microfilm. These represented both males and females whose ages ranged from 15 to 45 years and who came voluntarily to the units. Upon examination of the films the tuberculosis association requested 511 to return to the clinic for repeat X-ray examinations on larger film; and of this number, 165 persons were studied more completely by means of sputum examination, sedimentation rate, and other diagnostic procedures. Twenty-seven cases of tuberculosis "in some form or another" were detected and, of these, exactly 10 cases of active tuberculosis were uncovered, in addition to the three cases of far-advanced tuberculosis necessitating hospitalization.

Let us consider the vast scope of the survey, the number of X-ray films made, and the amount of time (6 to 8 hours daily except Sunday) required to reveal 13 cases of active tuberculosis, three requiring hospitalization. This is approximately one-tenth of one per cent, a small figure for so large an investment.

It is unlikely that either of the groups X-rayed is a sample representative of the total population of this area. The group examined in the mobile units contained only the middle-age range and represented only those persons who had been reached by the publicity, who wished to come, and who were able to come. No device for random selection was employed. Likewise, the group of patients examined in my office could scarcely be considered an unbiased sample either, if for no other reason than that they were all sick people. Nevertheless, the disparity between the percentages of active tuberculosis in the two groups is sufficient cause for reflection. If three far-advanced cases are found in a public survey of 10,830 people and four such cases are found in 89 of a general practitioner's patients, which is the better place to look for possible tuberculosis?

One of the best survey areas still untapped by the physicians or other surveys is in the hospitals themselves. It should be routine and required practice to have a chest X-ray film taken of every patient admitted to any hospital. Herein is the most important of all groups for chest X-ray surveys. The potential detection of minimal tuberculosis is most important from the standpoint of complete cure and recovery, more so than far-advanced tuberculosis.

Statistical data will bear out the fact that, if a routine X-ray film of the chest were made for every patient admitted to the various hospitals, many cases of otherwise unsuspected tuberculosis would be uncovered as well as other pulmonary and cardiac diseases. The percentage rate of cases found might possibly be similar to that seen in private practice.

The general practitioner cannot afford to fail to seize his opportunity to detect these cases. He has a public responsibility to do so in light of the above figures, which indicate that if he does not, no volunteer survey will or can detect them. There are certain persons, sick and well, who will not be included in any general survey, whether it be for pulmonary diseases, cancer, heart trouble, or diabetes. These are usually the youngsters under 15 years and the older folk of 55 years and up. Such individuals generally are seen only when they become ill and seek their physicians for treatment or advice. Their complaints may be minor, but, nonetheless, this is the time to examine these patients for other diseases, and general practitioners are the ones to make such examinations. They should look for signs and symptoms other than those relating to the patient's main complaint (which often is trivial) and be alert for diseases of the lungs and other organs. Their examination should include, in addition to the physical examination, an X-ray film of the chest, a blood pressure estimation, a blood count, and a urinalysis. Only thus can the physician fulfill his obligation to the patient.

Most patients can be convinced of the value of a routine X-ray examination of the chest. Usually an indirect and casual approach is all that is necessary. Even when the consultation concerns only a simple complaint or one in no way related to the respiratory or circulatory systems, it is a rare patient who objects, for example, to a suggestion that he have his blood pressure checked, or who fails to give an amicable reply to the question, "Do you smoke?" From there one may gently lead up to the important. "When did you last have your chest X-rayed?" Such direction of the consultation can nearly always result in not only the X-ray examination, but also a urinalysis and cardiac examination.

However, this ease of persuasion cannot be attributed entirely to the physician's skill. We must thank our advertising media for creating a health-conscious public. Such tractability in patients indicates that at least part of their "sales resistance" to preventive medicine has already been dissipated. Yet it seems but a short time ago that the obstinate patient was the customary one. His refusal of each procedure suggested was almost automatic. He had to be almost herded into the X-ray room; obtaining a blood specimen or basal metabolism rates were absolutely out. The physician escaped frustration only when the patient was too sick to object, and then it was usually too late for any procedure. As recently as 1940, this sort of patient did not think laboratory procedures were worth the outlay in either time or money. It is a relief that this obstacle of ignorance is fast disappearing.

With his way being prepared for him by the publicity drives of preventive medicine groups, the general practitioner can now do more to detect unsuspected disease than can any other individual or organization. He sees 85 per cent of the medical patients in this country. He is, therefore, morally obligated to become thoroughly familiar with all feasible diagnostic procedures and equipment, to employ such procedures and equipment himself if possible, and, if not, to refer his patients to someone who can. The success of preventive medicine and the constant vigilance of the general practitioner are inescapably correlated. And this vigilance must not be sporadic—it must embrace all patients. A careful and complete history, physical examination, and X-ray examination of the chest should be as much routine as is the medical history.

(The printing of Tuberculosis Abstracts is made possible by the coöperation of your local tuberculosis and health association.)

* From Vol. XXVI, November, 1953, No. 11.

The Council Reports—Continued from page 318

2nd District—Wallace E. Webber, M. D., Lewiston.

3rd District—A. W. Desjardins, M. D., South Bristol.

4th District—George E. Young, M. D., Skowhegan.

5th District—Edward Thegen, M. D., Bucksport.

6th District—Storer W. Boone, M. D., Presque Isle.

Committee to Redraft Commitment Law

The appointment of a committee to consist of one lawyer, one member of Institutional Service and one doctor to redraft the Commitment Law, was discussed. The President, Dr. Nickerson, was authorized to appoint the doctor member of this committee, and appointed Dr. Paul D. Giddings of Augusta.

Thayer Library Fund

It was voted that the income accumulated and as it accrues, of the Thayer Library Fund, be presented to the Spalding Memorial Library at the Maine General Hospital and that the Investment Committee be authorized to reinvest the principal sum of $1,000 in some security productive of more income than a savings account.

Medical Forums

Medical Forums, which have attracted considerable nation-wide attention and much favorable comment, and which have been viewed with favor by the Public Relations Committee, were discussed at the request of that committee for an authoritative decision on two points, namely: Is this a desirable public relations activity? Is it ethical? The Council voted to approve such a program.

Delegate to Annual Meeting of Medical Society of Nova Scotia

Dr. Oscar F. Larson of Machias, was appointed delegate to this meeting, which will be held in Nova Scotia, October 15, 1953.

Adjourned at 5.20 P. M.

Clarifications in "Doctor Draft Law"

New regulations modifying and consolidating earlier directives under the "Doctor Draft Law" (Public Law 779, 81st Congress) were issued in October by the Department of Defense. These new regulations, among other things, more clearly define professional standards of special registrants (medical). For example, a special registrant will be considered professionally acceptable if he is: (1) A graduate of an approved medical school or of a foreign medical school whose graduates are recommended for consideration by the AMA's Council on Medical Education and Hospitals; (2) A graduate of any other medical school and has an M. D. degree after completing a four-year medical course providing he has had 12 months of approved intern or residency training or is a diplomat of an American specialty board, and is licensed to practice medicine in any state or territory of the United States, or is a diplomat of the National Board of Examiners.

Assigning of rank will be based upon the number of years spent in appropriate professional activities subsequent to medical school graduation and prior to date of appointment. The scale for physicians and dentists is set up as follows: *Less than 4 years*—1st Lieutenant in Army and Air Force, Lieutenant in Navy; *4 to 11 years*—Captain in Army-AF, Lieutenant in Navy; *11-18 years*—Major in Army-AF, Lt. Commander in Navy; *18 or more years*—Lt. Colonel in Army-AF, Commander in Navy.

Copies of the entire directive are available on request from the AMA's Council on National Emergency Medical Service.

AMA to Survey Postgraduate Medical Education

Since keeping abreast of the latest developments in medicine is essential to the physician who wishes to bring the best possible medical care to his patients, the AMA's Council on Medical Education and Hospitals currently is undertaking an extensive survey of the entire problem of postgraduate education. To get first-hand information from the doctors themselves, the Council is distributing questionnaires to about 18,000 practicing physicians in all parts of the country. Doctors are asked to evaluate the various methods employed to keep them up-to-date in medicine—such things as medical publications, medical society meetings, postgraduate medical school courses and so forth. This study should result in an extension and improvement of the ways and means available for postgraduate medical education.

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SUBENDOCARDIAL FIBROELASTOSIS*

Lloyd E. Morris, Jr., M. D., and Frederick C. Emery, M. D.

Subendocardial fibroelastosis is an uncommon disease of obscure origin which clinically may be confused with cardiac disease of better known cause. A case report follows, including autopsy findings.

This was the first hospital admission of a four-months'-old female infant with a chief complaint of anorexia and irritability for three days.

Present Illness: This infant had been born at term from a mother who had a moderate toxemia of pregnancy. Physical examination at birth and subsequent neonatal course were normal. The mother had been Rh negative, but the baby showed no signs of erythroblastosis.

The patient was next seen at three months of age because of anorexia and irritability. Examination showed nothing other than an anemia with a Hgb. of 11 grams and red count of 3,000,000. There was a good clinical response to iron, liver and B-12.

One week prior to admission the patient seemed to develop a "cold" with nasal discharge, cough, and return of anorexia and irritability. Four days prior to admission the cough became worse. Rapid, irregular respirations were noted and the infant refused all food and seemed to cry and fuss continually.

Physical Examination: On admission the baby was very pale. There was cyanosis of the hands, lips, and nail beds. The respirations were rapid and grunting in type. There was moderate intercostal retraction. She had no fever. The cyanosis became worse on crying. There was a complete lack of breath sounds over the entire left chest with an impaired resonance over the same area. The heart sounds were indistinct but no murmur was heard, nor did the heart appear to be enlarged to percussion. A left border of precordial dullness could not be demonstrated because of the generalized impaired percussion note. The white count was 18,000 with a differential showing 44% polys, 50% lymphs, and only 3% band forms. The Hgb. was 11.2 grams and the red count was 4,000,000.

The working diagnosis was that of pneumonia with atelectasis and pleural effusion of the left lung.

Hospital Course: The patient was placed in oxygen and given penicillin and streptomycin parenterally. The X-ray report reads as follows: "The heart shadow is obscured along the left lateral border by a diffuse density which lies anteriorly and laterally but does not pass posteriorly, as though loculated fluid were present obscuring the heart border. Pericarditis with an inflammatory process affecting the pleura might account for these findings. Possibly a ball-valve obstruction of the left main bronchus and accompanying inflammation could explain the findings. Further films and fluoroscopy will be done."

By the second hospital day there was no improvement in the respirations, but the cyanosis was no longer present. The baby seemed less irritable in oxygen, but it was evident that a diagnosis of pneumonia or other infectious process was unlikely. It

*From the Laboratory and Pediatric Services, Eastern Maine General Hospital, Bangor, Maine.

was felt that the underlying pathology was probably cardiac in origin. Murmurs were still not present and there was no evidence of decompensation. Glycogen storage disease was considered as a possibility.

By the third hospital day the examination of the chest was unchanged. The patient's temperature had never been over 99°. There had been no relief from use of antibiotics and these were discontinued. It was noted that the infant became more distressed out of oxygen and would not nurse if held. She would take a bottle only if "propped" in the oxygen tent. Any attempts to move the patient to change diapers or to bathe her would produce violent episodes of crying and screaming. The baby acted as if in severe pain, her skin would become pale and moist, and she would assume an anxious expression. These symptoms resembled those of an acute anginal or coronary attack. Small doses of phenobarbital and morphine gave no relief. In view of these findings a diagnosis of subendocardial fibroelastosis was considered as well as a possible anomalous origin of the left coronary artery.

Fluoroscopy and further films showed "small amount of aerated left lung—an obscure amorphous density appearing to be infiltration rather than fluid obliterating the left cardiac border. The trachea is displaced backward as if the heart were enlarged in the antero-posterior diameter. There is no fluid in the pleural cavities. The liver and spleen are normal in size. Impression: Possible pericarditis, hydropericardium, and possible underlying congenital heart disease with superimposed infection. It cannot be determined whether the cardiac shadow itself is enlarged or whether the enlargement is due to pericardial fluid."

On the fifth hospital day the condition of the patient was worse. She would become extremely distressed out of oxygen and the cyanosis returned. The picture was one of cyanosis, rapid heart rate, rapid grunting respirations, little respiratory reserve, and episodes of screaming pain on effort. An electrocardiogram showed left ventricular hypertrophy with high voltage and very tall R and inverted T waves in leads 2, 3, AVF, and V-6. The ventricular and auricular rate was 165 per minute.

At this time it was decided that the most likely diagnosis was congenital heart disease, probably a cor trilocularis with pericarditis.

On the ninth hospital day the infant's condition was grave. Signs of decompensation developed and digitalis was started. A pericardial tap was done to relieve any possible tamponade but no fluid was found in the pericardial cavity. The patient exhibited a brief period of Cheyne-Stokes respirations and expired on the thirteenth hospital day. An autopsy was done.

At postmortem examination, the child was noted to be normally developed and well nourished. The heart lay in a transverse position, compressing the left lung. (Fig. 1) The right auricle was markedly dilated. The heart weighed 88 grams. The tricuspid valve measured 6.0 cm. in circumference, the pulmonic valve 3.5 c., the mitral valve 5.0 cm., and the aortic valve 3.0 cm. The valve leaflets were thin and delicate. The coronary ostia were in their usual position. The endocardium was smooth and glistening. That of the left aspect of the interventricular septum was reddish-yellow. Cut section here showed a subendocardial layer of firm, reddish-yellow tissue measuring 0.1 cm. in thickness. The myocardium was firm and red. That of the left ventricle measured 1.0 cm. in thickness and that of the right ventricle 0.3 cm. No interventricular septal defect was present. The foramen ovale was anatomically patent but functionally closed. The ductus arteriosus was closed. The remainder of the autopsy revealed no gross abnormalities.

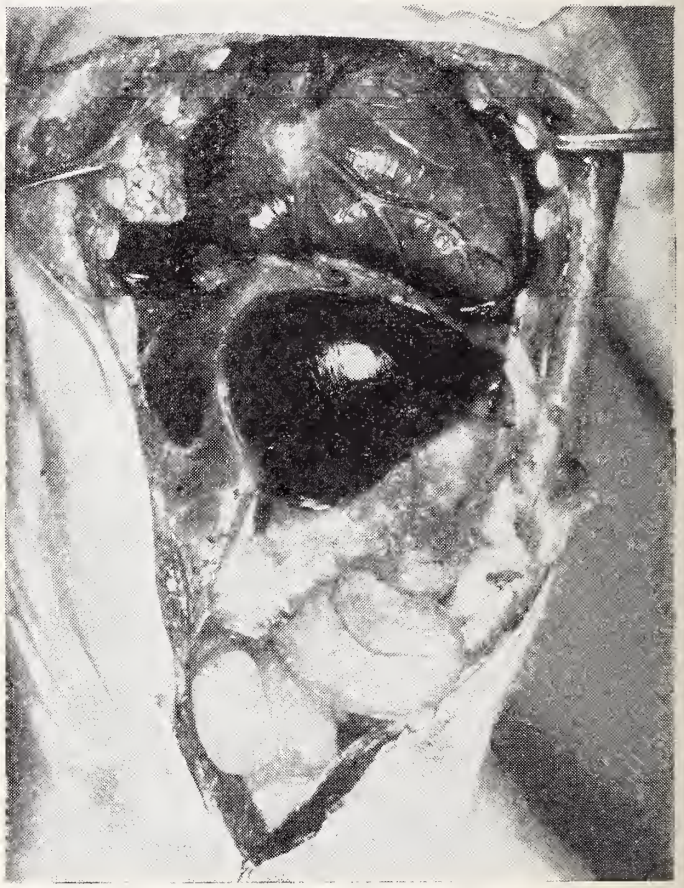

Fig. 1. The transverse position of the heart and the dilated right auricle are clearly shown.

On microscopic examination, sections of the interventricular septum showed endocardial thickening due to proliferation of fairly loose, basophilic tissue. Toward the myocardium, this tissue became progressively more dense and collagenous. Elastic tissue stain showed numerous delicate elastic fibers running parallel to the surface. (Fig. 2) These fibers became thicker and more numerous as the

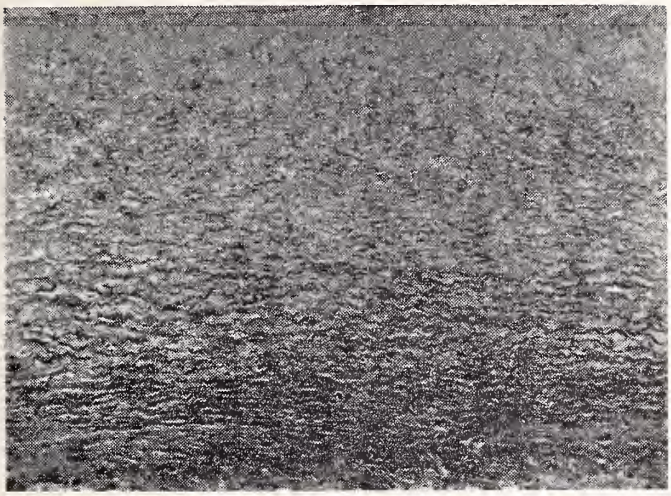

Fig. 2. The endocardium is at the top of the picture. The elastic fibers stain black.

myocardium was approached. The changes were most marked on the left aspect of the interventricular septum. The myocardium showed moderate hypertrophy of muscle fibers. Scattered foci of recent coagulation necrosis were seen, with no evidence of inflammation. The lungs showed atelectasis, most severe on the left. The remainder of the viscera showed congestion. The ovaries contained numerous cystic follicles.

In general, two types of endocardial thickening may be recognized; primary and secondary. The latter is a reparative fibrosis in response to underlying myocardial disease. This change may be found in such diseases as myocardial infarction, rheumatic fever, and diphtheria. It may also be present in subacute bacterial endocarditis, malignant nephrosclerosis, periarteritis nodosa, disseminated lupus erythematosus, and beri-beri.[1] Usually, the secondary type of disease is overshadowed clinically by the myocardial damage.

The primary type of this disease may be found at any age but it is more common in infants and children. In young patients, the fundamental change is an increase of fibrous and elastic tissue in the inner connective tissue layer of the endocardium, just beneath the endothelium. The latter remains intact. Grossly, the heart involved by subendocardial fibroelastosis is markedly enlarged, varying from 2½ to 4 times normal size.[2] Moderate to marked left ventricular hypertrophy is present. The endocardium is thickened, opaque, and gray. This change is usually best developed over the anteroseptal aspect of the left ventricle but sometimes involves the entire left ventricle and the left atrium as well. In about half the cases, valvular deformities are present, usually involving the mitral and aortic valves. The cusps are thickened and the free margins are rolled. The chordae tendineae of the mitral valve may also be thickened. The valves involved are mildly stenotic.

The cause of this endocardial thickening is not clear. Letteer[3] has presented a historical survey of the points of view concerning this process. The earlier pathologists believed that so-called fetal endocarditis caused subendocardial fibroelastosis and other congenital cardiac anomalies. Later review of reported cases, however, revealed that most of them did not fulfill the criteria for a true inflammatory process. As late as 1934, Abbott,[4] Farber and Hubbard,[5] and Stohr[6] still favored the inflammatory origin of subendocardial fibroelastosis. They based their opinion on such criteria of inflammation as myocardial cellular infiltration, fibrosis, and calcification. In 1941, Gross[7] declared that the occurrence of fetal endocarditis had never been established. According to him, the myocardial lesions often found in this disease and interpreted as evidence of primary inflammation resemble healed bland infarcts. Such infarcts may be related to constriction of the orifices of the arterioluminal, arteriosinusoidal, and thebesian vessels by endocardial thickening. Such constriction leads to stasis of blood within the intramyocardial capillaries with resultant anoxia and necrosis of the myocardium. Gross concluded that the endocardial and valvular changes are best explained by a developmental defect. The observations of Johnson[8] support this point of view. He studied over 200 cases of congenital heart disease with localized or generalized fibroelastosis. He found that hearts with the generalized change showed malformations which could produce endocardial anoxia. The most important of these abnormalities were origin of the left coronary artery from the pulmonary artery, premature closure of the foramen ovale, and valvular atresia. On the other hand, Dennis[9] believes that left-sided subendocardial thickening may be due to persistence and overgrowth of the proliferating endocardium of the left bulbus cordis during embryonal development. Organization and contraction of this hyperplastic tissue causes fibrous endocardial thickening and valvular distortion. The occasional occurrence of this condition in the right heart could follow a similar overgrowth of the lining of the right bulbus cordis.

Clinically, the incidence is equally divided between the two sexes. The age of onset is variable. Dennis et al.[9] have recently reviewed 149 cases of subendocardial fibroelastosis. They point out that this disease may take one of three clinical courses. The fulminating type, observed in 25% of cases, has its onset in a child less than six weeks of age, who has appeared well until the abrupt onset of dyspnea and cyanosis. The child usually survives only a few minutes or hours. The acute type, occurring in 50% of cases, first gives rise to illness when the child is between 6 weeks and 6 months of age. The child has been in good health until a sudden paroxysm with cyanosis appears. The initial attack may be ascribed to aspiration or choking. The paroxysms recur and

are accompanied by progressive irritability, anorexia, tachycardia, and spasmodic coughing. Radiographic examination of the chest reveals an enlarged, globular heart. The illness terminates in fatal syncope, with shock, respiratory distress, and cyanosis not relieved by oxygen. The average survival after onset is two weeks. The chronic type, seen in 25% of cases, occurs in older infants and children. The onset may be insidious, marked by anorexia, irritability and decreased rate of growth in a previously well child. Spasmodic, hacking cough may be noted. Cardiomegaly is present. Terminally, dyspnea and cyanosis appear. Death may be sudden and unexpected. This type of disease may last for months or even years.

Electrocardiographic findings are usually abnormal, but no characteristic pattern or abnormality is discernible.[9] The most common deviation is depression of the T-waves, which may be seen in myocardial anoxia of any cause. Definite inversion of the T-wave was observed in only one lead of a single patient. The case herein reported showed inversion of T-waves in leads 2, 3, V-6, and AVF.

The common factor underlying all these varieties of clinical course is cardiac hypertrophy and ultimately more or less rapid myocardial failure. This course of events may be due to two factors. First, the rigidity of the fibrotic endocardium places an increased strain on the myocardium with resultant hypertrophy. Second, the ostia of the arteriosinusoidal, arterioluminal, and thebesian vessels are slowly occluded. This occlusion brings about myocardial stasis and anoxia, leading to rapid ventricular failure.

A few cases of subendocardial fibroelastosis have been reported in adults.[10, 11] The clinical course may be long, somewhat resembling that of constrictive pericarditis. Embolic phenomena are rare. The pathogenesis of this form of the disease is not clear. In some cases, it may be fundamentally secondary to some obscure type of myocarditis.

More recently, attention has been called to a type of subendocardial thickening accompanied by mural thrombosis and the release of numerous emboli.[1, 12] This disease has been most frequently reported among African natives. It may assume an acute, subacute, or chronic clinical course. A fatal termination usually occurs within a month to 3 years. The patient undergoes myocardial failure with numerous infarcts of lungs, kidneys, spleen and brain. In the acute type, the mural endocardium is swollen, undergoing so-called mucinous edema. Fibrinous exudate, fibrinoid necrosis, and thrombus formation ensue. In the more common subacute type, granulomatous foci develop at the site of these lesions. In the chronic type, comprising only about 5% of these cases, subendocardial fibrosis and elastic tissue hyperplasia occur. Necrosis and scarring of the myocardium may be present. The pathogenesis of this disorder is not clear. Some believe that it should be classified among the collagen diseases.[12]

Summary: A case of subendocardial fibroelastosis is reported, first appearing at four months of age and ending fatally. It is of interest in that the usual diagnostic difficulty was encountered. The symptoms were quite similar to those of previous reports, but episodes of apparent cardiac pain seemed more pronounced than is usually noted. Another interesting feature was the presence of inverted T-waves. In children this disease is best explained as a developmental anomaly, perhaps an overgrowth of the endocardium of the left bulbus cordis. On the other hand, it may be secondary to a valvular or other cardiac defect leading to anoxia of the endocardium. In adults, the etiology and pathogenesis remain obscure. The occurrence of rapid myocardial failure in a previously healthy person, with or without peripheral embolization, should lead the physician to suspect the presence of this disorder.

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THE FAMILY PHYSICIAN AND CARDIAC SURGERY*

Wilbur B. Manter, M. D., Bangor, Maine

An increasing number of cardiac patients can now look forward to a useful and active life as a result of recent achievements in surgery for the heart. The family physician has the important responsibility of discovering these cardiac patients who may be helped by surgery. The dramatic performance of the surgeon can only then follow.

It is the purpose of this presentation to enumerate certain criteria which may be helpful in recognizing some of these cardiac abnormalities, to discuss in a more general way factors which may aid in the selection of potential candidates for cardiac surgery, and finally to call attention to certain special medical measures which may be of considerable importance in carrying along some of these patients, especially until they may be helped by surgical intervention.

For those patients having congenital heart disease or acquired valvular disease, exact anatomical diagnosis is distinctly of secondary importance. The first responsibility of the physician is to decide whether or not the patient has a condition that currently embarrasses or may later embarrass heart function. If so, the following questions should be applied. Is there a possibility that surgery may improve heart function? If surgery may help, is it indicated at once, or can it be postponed until the child has reached the optimum age for the procedure, or to await the development of an improved technique? If postponement is advisable, is there special medical care to help the patient during the waiting period?

It may be difficult in many instances to satisfactorily answer the above questions without the aid of diagnostic tools not readily accessible to the family physician. When the evaluation remains doubtful, the patient should be referred for further study.

The history, the eyes, the hands, the stethoscope, and the sphygmomanometer may be sufficient for evaluation; often X-ray—film and fluoroscope—and the electrocardiograph should also be employed. The use of the last two may not be imperative until after the age of five, especially if the suspect has no clinical signs of deranged function, such as cyanosis, dyspnea, tachycardia or dysphagia;—cardiac surgery is not elective until after this age. With these studies, a decision can be made as to whether or not surgery is indicated or if some more elaborate study, such as cardiac catheterization, angiocardiography, or blood oxygen saturation studies should be made.

It is well to remember that serious acquired valvular or congenital heart disease may be present without a murmur, or with only a faint murmur. On the other hand a loud murmur may accompany a condition for which the prognosis may be good even without treatment. Regarding acquired valvular heart disease, the patient with stenosis of any valve can be considered a potential candidate for surgery.

Operation on the mitral valve for stenosis has been eminently successful and is now an established procedure. In our own mitral stenosis patients, we have seen dramatic results—including one cardiac cripple, a young woman, with eighteen hospital admissions in the two years before mitral valvulotomy. Within a year following the surgery, she declared that she could "work all day, play all night, and run up six flights of stairs."

Recently acquired knowledge of the relationship between clinical signs and cardiac physiology has changed some of our former concepts of evaluating valvular function in patients with mitral disease. It is now realized that mitral stenosis with no significant mitral insufficiency may be present even with a moderately loud apical systolic murmur, that significant mitral insufficiency may be present with a very minor apical systolic murmur, or that mitral stenosis may be present in the absence of a diastolic apical murmur. It would then appear important that any patient suspected of having significant mitral valvular disease should be studied sufficiently to determine whether or not he is or may be a candidate for mitral valvuloplasty. Furthermore, a surgical technique for helping mitral insufficiency is being worked out.

Surgery to relieve aortic stenosis is now being done but risk to the patient is considerably higher than in operations for mitral stenosis. However, it should be borne in mind that once the symptoms of syncope or angina pectoris due to aortic stenosis develop, it is generally agreed that life expectancy is short and is usually estimated at six months to one year. When congestive failure develops, the condition is relatively intractable to treatment and tends to be relentlessly progressive. As an example, a healthy-appearing 52-year-old woman with angina pectoris and a history of several episodes of syncope was advised to have this operation. She herself was willing, but her family, probably because of her healthy appearance, discouraged her. Approximately three months later, she died suddenly. It now seems reasonable, after careful study, to advise surgery for certain of these patients who have syncopal attacks or angina pectoris, especially if the patients have not had congestive heart failure or myocardial infarction or if they show no other signs of myocardial weakness.

Pulmonary stenosis, usually of congenital origin and especially if it is of the so-called valvular type, can be operated upon successfully with less risk than

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in operation for aortic stenosis. This condition will be mentioned again later. Tricuspid stenosis is relatively uncommon and is frequently not diagnosed. The surgical technique and the risk are approximately the same as those for mitral stenosis.

One point to be emphasized is the point that indicated valve surgery should be offered, or even urged, while there is a good myocardium left and before irreversible damage has occurred in other organs. In order not to raise hope that may be frustrated, it seems only fair that evaluation of the patient be made by ordinary methods, including fluoroscopy and electrocardiography before the matter of surgery is discussed with the patient.

It is helpful to divide congenital heart disease into two major groups—the acyanotic group and the cyanotic group. Abnormalities suitable for surgery in the first group include patent ductus arteriosus, coarctation of the aorta, pulmonary valvular stenosis, interauricular septal defect and congenital vascular ring.

Patent ductus arteriosus is a familiar condition that is easily diagnosed when the typical findings are present. There is almost general agreement that surgery is indicated for all cases. An exception may be the patient over forty who has no signs of cardiac enlargement or embarrassment. Providing a child is doing well without symptoms, it is best to wait until the age of five but not delay until after the age of twelve.

The mortality rate in a large series was recently reported as less than ½ per cent. In the diagnosis, it is important to bear in mind that the typical murmur, often with a palpable thrill, may be missed if one does not listen high on the left chest including the area just below the clavicle. Occasionally the murmur is not constantly present and may only be brought out after exercise. There is also an important and easily overlooked group, in whom the murmur is atypical, in that it may occur in systole, or rarely in diastole alone. A faint or atypical murmur may indicate a large ductus. With the atypical findings, other evidence for cardiac disease may be found, and symptoms may be present that will call attention to such a patient. This is one good reason why all patients with evidence of heart disease of unexplained etiology should be adequately studied. They may have a curable heart disease.

Coarctation of the aorta is another condition that may be easily diagnosed. If the degree of the coarctation is great enough to be significant, there will be a detectable difference between the pulsations or blood pressures in the arms and legs. An important point to make is that a normal blood pressure determination in the left arm, or in either arm, with the patient at rest, does not exclude the possibility of coarctation. The constriction may occasionally be proximal to the left subclavian artery. Occasionally the pressure may be normal at rest, but it can then be expected to rise significantly after exercise. With this condition, there may be a problem in deciding as to whether or not a given individual should be operated upon, especially if the coarctation is not severe. It is a formidable procedure, but the last hundred cases in a long series had a mortality rate of only 2%. Although some individuals with this condition may live a long life without operation, the average age of death is estimated to be about thirty. The optimum time for operation is between the ages of ten and twenty.

Pulmonary valvular stenosis is a condition that may be considerably improved by valvulotomy. The condition is usually but not always associated with a harsh systolic murmur and thrill in the pulmonary area. In addition to careful physical examination of the heart, further study, including at least the electrocardiogram and fluoroscope, is necessary for accurate diagnosis and evaluation. In the absence of other associated anomalies, there is no cyanosis until the condition is considerably advanced. This is a condition in which the ideal time for surgery may actually be before the patient has cardiac symptoms. The decision as to whether or not surgery should be done under such circumstances depends largely on the evaluation of the strain on the right ventricle.

Interauricular septal defect may result in considerable heart enlargement and yet the patient may do rather well. Surgery is done for the condition but the operative risk is high. However, for the occasional patient with this disorder who is doing poorly, the time has come when surgery should be seriously considered.

Ventricular septal defect, without other anomaly, is probably less frequent than it was once considered to be. It also has a reputation of being a relatively benign disorder; it is now becoming clear that this is by no means always the case. It appears that it will not be long before surgery will be available for selected patients with this condition.

Although not strictly a cardiac condition, congenital vascular rings may encircle the trachea or esophagus or both, and may give rise to serious symptoms. This condition may often be relieved or cured by surgery and it may be done in very young children. Respiratory stridor is the most important symptom and there often is dysphagia. Occasionally, there may be attacks of dyspnea with deep cyanosis that may be relieved by hyperextension of the head and neck.

As regards cyanotic congenital heart disease, all cases should be studied by the electrocardiogram and the fluoroscope in addition to the usual examination. For most cases with cyanosis related to deficient circulation through the lungs, surgical help but not cure, is available. The purpose of this surgery is to create either a shunt from the systemic to the pul-

monary circulation or to open up a narrowed passage between the right heart and the main pulmonary artery system. Tetralogy of Fallot is the most common form of congenital heart disease associated with cyanosis. This can well be treated, when surgical help is necessary, by a shunt operation, or occasionally by pulmonary valvulotomy. Pulmonary stenosis with a right-to-left shunt, usually between the auricles may be treated by the same methods but more often by the valvulotomy. Occasionally, tricuspid atresia may be helped by a shunt operation. In all this group, it is preferable to wait until age five before surgery is done. However, it should not be postponed if the child is not doing well, as when there is congestive heart failure, severe cyanosis, poor exercise tolerance, or retarded growth.

Congenital pulmonary arteriovenous aneurysm, although not a heart condition, can be successfully treated by resection. Cyanosis and a bruit over the lung area may or may not be present. Occasionally the condition may first be suspected from chest X-ray findings.

Several complicating conditions are peculiar to cyanotic heart disease. Brain abscess should be suspected upon the development of any central nervous system symptoms in such patients. Fever and other usual symptoms of infection may be minimal or absent. Neurosurgical treatment is urgent and may be life saving. To avoid cerebral thrombosis, it is important that the fluid intake be generous, especially in hot weather, or in patients with fever, vomiting or diarrhea. Episodes of paroxysmal dyspnea may occur. These are best treated by the following measures used as necessary in the order given: place the infant in the knee-chest position, give morphine sulphate, 1 mg. (1/60 of a grain) per ten pounds, and administer oxygen.

"Relative anemia" may cause a patient with cyanotic heart disease to do poorly. This is especially likely to occur during the earlier years before the ideal age for surgery. Many such patients get along best with a hematocrit between 70 and 75%, so that a hemoglobin of 12 to 14 gm. and a red count of six million or more may be a significant iron-deficiency anemia for such a patient. Administration of iron may correct this and though the patient becomes more cyanotic, he may get along considerably better. On the other hand, when the increase in the viscosity of the blood begins to outweigh the importance of the increased oxygen carrying capacity, further increase in the hematocrit level becomes deleterious. If the hematocrit is 80% or more, the patient would be expected to benefit from phlebotomy.

Subacute bacterial endocarditis is prone to occur in patients in each of the groups mentioned, more especially in patent ductus arteriosus, interventricular septal defect, and in the valvular disorders. A prophylactic antibiotic, penicillin is usually best, should be given before surgery involving infected tissues, especially the tonsils, and including tooth extraction. The American Heart Association in 1952 made a recommendation of 400,000 units of crystalline penicillin G one-half hour prior to extraction, and for the following three days either a daily dose of 400,000 units of slow-acting penicillin intramuscularly, or 400,000 units of oral penicillin three times daily, one-half hour before meals.

Common upper respiratory infections may lead to serious trouble in certain of the patients. In these cases, prompt treatment to avoid secondary bacterial infection in the lungs is very important, and occasionally prophylactic use of an antibiotic through the periods of high incidence of upper respiratory infections may be indicated.

Congestive heart failure in children usually manifests itself somewhat differently from that in adults. The earlier symptoms are usually those associated with right heart failure, including distention of the neck veins, enlargement of the liver, and peripheral edema. In addition, there is usually rapid heart rate. The usual treatment for congestive heart failure usually gives temporary help at least.

A hopeless prognosis should almost never be made for the child with congenital heart disease. A child with heart disease will usually limit his activity by himself; so that the less said to the child about the condition, the less he is spoiled and the easier he is to handle. On the other hand, it may later be necessary to limit competitive sport. Most of these children tolerate anesthesia well when given wisely and with free use of oxygen, especially for the cyanotic group. Education should not be neglected, because many of these children may live for many years and may be unable to earn their living by physical labor.

To quote Dr. Helen Taussig: "Even patients who cannot be helped by surgery should be encouraged to lead useful lives. In many instances it is quite as much the doctor's attitude as the malformation which makes an invalid out of the child."

Summary

1. Cardiac surgery can help an increasing number of patients with congenital heart disease or acquired valvular disease.
2. The family physician has the important responsibility of finding the potential candidates for heart surgery.
3. Certain criteria which may be helpful in recognizing such cases are discussed.
4. Certain medical measures which may be important for some of these patients, especially before surgical intervention, are brought to attention.

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REGIONAL ILEITIS

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The purpose of this paper is to review some of the facts concerning regional ileitis and apply them to a case that was recently treated by the writer. Not much information regarding regional ileitis has been added to the excellent description of the disease that was presented by Crohn and others in 1932. Many cases have been reported and various theories as to etiology have been suggested but as yet we do not have a satisfactory answer to the cause of this disease.

Regional ileitis is a non specific granulomatous inflammatory lesion involving by preference the terminal ileum. However, this type of pathological process may involve any part of the small intestine and has been recognized in the large intestine. It occurs predominantly in young people, the average age in 110 cases reported being about twenty-seven years. No definite etiological factor has been found. Various types of bacteria have been blamed, along with the virus or some chemical factor.

From the pathological viewpoint, this disease is classified as a granulomatous type of inflammation, predominantly affecting the terminal ileum, sometimes presenting skip areas in the small bowel. The process starts in the mucosa and then spreads through the wall to the serosa. In the acute stage it may go on to perforation. There are usually many large glands in the mesentery. Other common findings include perirectal abscess, perianal fistulae, or abdominal fistulae. In the acute stage the terminal ileum is swollen, the wall is thickened and edematous, the serosa is friable and bleeds easily, and there are frequently adhesions between loops of bowel. As the disease progresses, the bowel wall becomes rigid and loses much of its pliability, causing the so-called "string sign" by X-ray.

The acute phase of the disease presents the clinical picture of an acute abdomen and often it is considered to be acute appendicitis. As the disease progresses to the chronic stage it is associated with diarrhea, anemia, weight loss, lower abdominal cramps, and sometimes intestinal obstruction. In many cases the disease is a progressive one while in others, it apparently reaches a stage of regression and then goes on to healing.

The diagnosis is made on the history of abdominal pain, nausea, vomiting, bouts of diarrhea, and the appearance of fistulae. Frequently the diagnosis is made at laparotomy for a supposed acute appendicitis. In the late acute phase a change may be noted in the terminal ileum by a barium meal. In the chronic stage, the diagnosis is usually easily recognized following a barium meal.

The case to be presented is that of a nineteen-year-old girl who was first admitted to the hospital on April 20, 1950, as an acute abdominal emergency. Her past history was significant in that she had complained of lower abdominal cramps and occasional diarrhea four years ago at which time a diagnosis of colitis was made. These first attacks were mild and never incapacitating. The diagnosis was made on the basis of a barium enema. The present attack started three hours before admission with generalized abdominal pain and nausea. There was no recent bowel disturbance. Abdominal examination showed marked tenderness and spasm in both lower quadrants, with rebound tenderness. Her temperature was 101, pulse 120, respiration 22. Blood studies showed a red blood count of 3,600,000, hemoglobin 66%, white blood count 13,400 with 85% polys. The preoperative diagnosis was acute appendicitis with peritonitis. At laparotomy a large amount of cloudy fluid was present in the pelvis. The appendix was swollen, markedly injected, and was adherent to the terminal ileum. The terminal foot of ileum was involved in an acute inflammatory mass superimposed on a chronic process. The bowel wall was swollen, thickened, hemorrhagic, and friable. The mesentery was swollen and tense. It was felt that the process represented an acute flareup of a regional ileitis. After removing the appendix the wound was closed without drainage. The pathological report on the appendix was acute suppurative appendicitis. This girl was moderately ill for four days postoperatively. She ran a fever to 104 and had some ileus. On the fifth day she showed signs of overcoming the peritonitis and then made rapid progress towards recovery. She was treated by supportive intravenous fluids and antibiotics including penicillin, streptomycin and aureomycin.

She was able to return to college and resume normal activity. Her only complaints were occasional bouts of diarrhea, easy fatigability, and a mild secondary anemia. On January 12, 1952, she was admitted to the hospital for the second time because of fever, pain in her right lower quadrant, general malaise, and loss of appetite. On examination her temperature was 102, pulse 124, respirations 20. The lower abdomen showed tenderness and spasm. White blood count was 22,200 with 83% polys. Urine examination was normal. She was again placed on antibiotics and in four days her temperature returned to normal and she felt much better. A G.I. series on this admission showed ileitis of the terminal ileum and some inflammatory changes in the cecum.

The third admission was on February 9, 1952, when she awoke in the morning with severe lower abdominal crampy pain accompanied by nausea. Abdominal examination revealed a mass in the right

lower quadrant. The white blood count was 17,200 with 92% polys. The red blood count was 4,160,000. The sedimentation rate was very fast. At operation, an incision was made over the mass in the right lower quadrant and a large abscess was encountered on opening the peritoneal cavity. Two drains were inserted in the abscess. The post-operative course was smooth without complications. However, as was expected, she had a persistent fecal fistula which continued to drain a small amount. This did not prevent her from finishing her studies at college.

The fourth admission was on September 4, 1952, at which time she was scheduled for resection of the diseased bowel. Since discharge several months earlier, her general condition had remained good. However, there was a draining sinus in the right lower quadrant, a constant discharge of thin fecal material, a few lower abdominal cramps and slight anemia. Diodrast injected into the sinus tract showed that it entered the ileum.

At operation the abdomen was opened through a right rectus incision, and the sinus tract was excised. There were many adhesions between the ileum and cecum. There was a fistulous tract between two adjacent loops of ileum. The mesentery was thickened and edematous. The right tube was involved in the inflammatory mass. The terminal ileum, cecum and ascending colon were resected. A side to end anastomosis was performed between the ileum and transverse colon. There was no sign of any skip areas in the small bowel. The postoperative course was a bit stormy for three days, after which the temperature returned to normal and the patient made an uneventful recovery.

It has been one year since the resection was performed. The patient has gained twelve pounds, her bowels are working well with no diarrhea, her appetite is excellent, and she has had no abdominal pain. She has gone through a period of emotional stress and showed no ill effects when her husband was inducted into the army.

A discussion of this disease revolves around the etiology and the best method of treatment. As far as etiology is concerned, we can dismiss it with the statement that for now we do not know the cause of the disease. It is believed that any unusual mental stress may aggravate the disease. The possibility of some psychosomatic background in these individuals has been strongly presented by some investigators but I doubt if the disease can be explained on that background. We all recognize that the treatment of any disease improves in the absence of mental or emotional distress. Allergy has been blamed as a causative factor and a few cases have been reported to substantiate that claim. However, these are not convincing. The treatment consists of a balance between the proper medical regime and the safest surgical procedure for the individual case. It is quite probable that spontaneous remission occurs in some cases. Medical treatment includes proper diet, vitamins, antibiotics, and good mental health. ACTH and cortisone have been tried in some cases but the general consensus is that these products give the patient a sense of well being and may increase the appetite, but that they have no effect on the progress of the disease.

When we are dealing with the advanced stage of the disease with ulceration and obstruction the only hope for cure is radical excision of the diseased bowel. It is generally felt that if at laparotomy the disease is recognized in the early stage, primary resection should probably not be carried out. There are two reasons for this, one because the disease may regress and two because resection in the acute phase seems to carry a higher mortality. Some investigators say that even the appendix should not be removed because of the tendency to fistula formation. Two years ago I operated on a man with a diagnosis of acute appendicitis who had an early terminal ileitis. An appendectomy was performed and an uneventful recovery ensued. The patient has been well since then, his only complaint being occasional mild diarrhea. However, in my mind it seems that early primary resection might prevent some of the recurrences. In the chronic stage, several surgical procedures have been recommended. The simplest one is an ileocolostomy without exclusion. The mortality with this is low but the return of symptoms is high. Ileocolostomy with exclusion has given good results, but the diseased bowel is still left behind with this operation. A Mikulicz resection has been performed at the Lahey Clinic with good results. Recently there has been a definite tendency to carry out ileocolostomy and primary resection of the diseased bowel. The mortality figures in some series is as low as two percent. Of course the final decision as to the type of surgery rests with the individual case. However with adequate preoperative preparation, careful surgical technic, and good postoperative care, a one stage resection may be carried out safely.

INSTRUMENTAL MANAGEMENT OF THE FORECOMING HEAD

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Instrumental management of the forecoming head is usually a routine matter. However, traction difficulties and evidence of cerebral damage encountered in a small percentage of cases provide adequate reason for each individual practicing obstetrics to reexamine and improve his technique.

To avoid disaster one can adopt a logical system of management which applies to all forecoming heads. Adherence to this system provides assurance of success in handling arrested and asynclitic heads, may forestall premature delivery attempts, and influences the selection of instruments.

Realizing that each individual from formal teaching and experience, develops a personalized technique which in his hands is optimal, it is the object here not to discourage individualization but to present a few criteria and principles of management which help organize one's approach to the problems of the forecoming head.

Vaginal delivery, coute que coute, with avoidable damage to the infant and/or the mother can hardly be considered an obstetrical triumph. Modern obstetrical practice rebels against misdirected forcep applications and brutal traction resulting in abruptions of maternal tissues and immediately obvious or occult damage to the infant.

The arrested forecoming head is often inadequately managed by prolonged waiting, version and extraction, or Caesarian section. Much can be said about these varied solutions to one problem but such discussion would be a digression from the subject of instrumental delivery, and will be dismissed with only brief comment on Caesarian delivery.

The increased incidence of Caesarian delivery in part implies, of course, that many physicians with surgical experience are using as relative indication for Caesarian procedure cervical dystocia, dystocia-dystrophia, and relative cephalo-pelvic disproportion so that an inordinately high section rate results.

Caesarian delivery, in its present state of development, is a relatively safe way of effecting the release of an undamaged infant but the slightly increased risk of abdominal surgery and higher fetal mortality demand that the Caesarian rate be kept as low as possible, so that combined with careful and skillful management by vaginal methods the greatest possible number of uninjured infants will be produced. Today the optimum Caesarian percentage is about 4-5%. This will, of course, rise as more repeat Caesarians are done in the future.

The incidence of high and high-mid forcep applications is much reduced in enlightened obstetrical practice. Most tissue damage and failed forceps have occurred at these stations because the operator with inadequate evaluation of the situation has knowingly proceeded with no assurance of success. Obviously, a poor cephalic application followed by traction through lower planes of narrow diameters results in traumatic delivery.

Before any forceps application can be made, there are certain cardinal requirements which must be fulfilled. Ignoring any of these is a serious breach of technique.

1. There must be no cephalo-pelvic disproportion. X-rays, physical examination and trial of labor will produce an impression of cephalo-pelvic relationship.
2. The vertex must be engaged. A vertex not engaged is relatively mobile and easily displaced with resultant prolapse of umbilical cord or small parts.
3. The cervix must be fully dilated. Accouchement force is decried today and one should not take liberties with the so-called negotiable cervix. The penalty, of course, is laceration of the cervix with possible extension to the corpus and uterine artery resulting in severe hemorrhage. This can be a dire threat to the parturient's existence.
4. The vertex position must be ascertained. Without a diagnosis of position, the correct application of forceps becomes a matter of chance and a threat to the foetus. It will be shown that the margin of safety between a true cephalic application and the most dangerous type is indeed a narrow one.

Rupture of the membranes is desirable, but not an absolute prerequisite for forceps application.

With the cardinal requisites for forceps application fulfilled, it is necessary next to be familiar with the so-called true cephalic application, and the manner in which such an application can be verified.

The true application is a bi-parietal, bi-malar application. Perhaps the most dangerous application is the brow-mastoid. Demonstration by mannikin or on a new-born will graphically show how a moderate shift of the blades to the brow-mastoid application might go unnoticed. The danger here is twofold:

1. The forces of resistance to an asynclitic head are greatly increased.
2. The unequal application of pressure to the mobile skull bones comes in the form of torsion resulting in greater possibility of tentorial tear and bleeding from the vein of Galen or one of the sinuses.

A true cephalic application of forceps can be assured by meeting the following definite requirements. With application of forceps accomplished—

1. The blade fenestrations should be barely felt or not palpable at all.
2. The plane of the shanks should be one finger breadth below the posterior fontanelle.
3. The sagittal suture should be perpendicular to the plane of the shanks *throughout its entire length.*

An accurate application of blades invariably results from satisfying the afore-mentioned requirements, and the head is ready for extraction.

Being conversant with the fundamental requirements for forceps application, it is now desirable for the physician to know the characteristics of various forceps so that he may be able to select the proper instrument for problems of the forecoming head.

There are divergent schools of thought regarding the selection of forceps for delivery. Some feel that meticulous development of the art of using one instrument for all situations is best. Others recognize that many forceps were designed for a particular situation, and logical selection of the right instrument depends upon knowledge of the features of various forceps. Some elaboration on the latter idea will now be presented.

Through the years well over six hundred models of forceps have been introduced. This fabricates a seemingly confused multiplicity until examination of many instruments reveals that there are few basic types and many, many modifications of minor nature so that nearly all instruments can be divided, most into the great group of classical type instruments and a few into the group of special instruments.

Instruments of the classical group have certain basic characteristics in common such as a cephalic curve, a pelvic curve and a fixed lock. A subdivision of this group may be established by dividing forceps with overlapping and those with separated shanks.

Classical

Separated Shanks	*Overlapping Shanks*
Simpson	Elliot
DeLee	Tucker-McLean
Hirst	Bailey-Williamson
Haig-Ferguson	
Hawkes-Dennen	

Having divided forceps by physical characteristics into different categories, the advantages or indications for each may be noted.

The Simpson type forceps with gradual cephalic curve and separated shanks is best used for anterior positions of the *molded* head. The Elliot type forceps, with sharp cephalic curve and overlapping shanks is best used for the *unmolded* head and is somewhat better for rotation than the Simpson type.

Special Instruments

Kielland
Luikardt
Barton

Although transverse and posterior positions may be managed by classical type forceps, sometimes efficiency is reduced by improvised maneuvers or multiple applications of the instrument. For example, the Key-in-Lock maneuver of DeLee requires multiple applications, and a Scanzoni maneuver requires removal and re-application of blades. These procedures may be done without harm if the station of the head is low. But a low-mid or higher transverse arrest is best managed by the Kielland forceps. This special instrument, with no pelvic curve, was specifically designed for this type of delivery. The absence of a pelvic curve facilitates application which can be made direct or by unique inversion technique.

Kielland forceps can be applied to posterior positions so that the head may be delivered as such or as in nearly all cases, can be rotated and delivered without re-application. Thus Kielland forceps, carefully designed so that infant heads are relatively unmarked, can, with a single accurate application achieve rotation, traction and delivery of transverse and posterior positions.

The one definite contra-indication against Kielland forceps is a high transverse arrest with posterior asynclitism. In this situation the head is angulated so that it tends to override the symphysis. No fixed anterior blade can be applied without certain damage to foetus or uterus and bladder. Here the Barton forceps with anterior blade hinged at the heel and posterior blade shaped in a specially adapted pelvic curve is a logical choice. The anterior blade may, if necessary, be wandered to anterior position and posterior blade can be applied directly. Traction is made, bringing the head to a low station where rotation is easily accomplished and delivery completed.

The special instruments mentioned are equipped with sliding locks in contrast to the fixed lock with which the classical type instruments are equipped. The sliding lock seems insecure until one sees by demonstration how smoothly an asynclitic head is corrected and the delivery consequently made easier.

Axis Traction

Instruments	*Attachment*
DeWees	Bill handle
Tarnier	

In the past, mention of axis traction has implied special instrumental delivery necessitating a "hard pull." This misconception is being dissipated and properly replaced by the idea that axis traction is a principle of management rather than an instrument of brutality. If one can visualize the parturient canal being analogous in its angulation to the smoker's curved stem pipe, it will be seen that traction down to the point where extension is indicated should be in the plane of the cephalic curve of the blades when the shanks are horizontal.

An axis traction instrument or attachment, with

hinging of the traction device any place from the heel of the blade to the handle, parallels in its direction of pull, the desired direction of traction. All other requirements having been fulfilled, the delivery procedure should require minimal effort (the Pajot maneuver is, in effect, axis traction). But unskilled application to an asynclitic head with the baby literally being "torn" from its mother has made axis traction symbolic of a "tough" delivery.

In conclusion careful appraisal of the forecoming head with proper selection of forceps enhances pelvic delivery, protects both fetus and mother, and justifies an obstetrician's feeling of accomplishment.

HYALINE MEMBRANE DISEASE

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Introduction and Definition:

The problem of death in the neonatal period has long been an important and perplexing one in the fields of Pediatrics and Obstetrics. With the advent of sterile technique, adequate pre- and post-partum care, competent handling of obstetrical complications, and the use of antibiotics, maternal mortality has shown a marked decrease over the past two decades. However, a similar decrease in neonatal mortality has not resulted.

The most outstanding cause for this high neonatal mortality is premature labor. One of the common microscopic findings found at autopsy in this premature group is the presence of a glassy, homogenous, translucent, eosinophilic material distributed in membrane fashion throughout the lung. The preceding description was, of course, that of a hyaline membrane.[1]

Significance:

It is estimated that from 20 to 50% of all autopsies in the neonatal period show the presence of hyaline-like membranes in the lungs. The percentage is considerably higher in the premature group, being estimated at from 66 to 75% of all autopsies in this period.[4, 5] This condition alone is held responsible for some 10,000 to 70,000 neonatal deaths each year in the United States.[1] Since hyaline membrane disease is such a prevalent condition in the premature infant, it is important that every practitioner know of its existence, do everything possible to avert its appearance and give proper treatment in its presence. Moreover, pathologists should be made increasingly aware of its existence as a pathological entity in order to give us more competent statistics as to cause of death in the neonate. Finally, a continuing search for the etiologic agent must be established so that one day a definitive treatment may be available. By this alone will a substantial decrease in neonatal mortality be accomplished.

Clinical Picture and Pathology:

At birth, a child with hyaline membrane disease may breathe spontaneously or respirations may be difficult to commence. In the latter case he will respond to O_2 and stimulants. In either case, after a few hours extreme respiratory distress occurs, characterized by cyanosis, severe costal and sternal retraction, and the child may die within twelve to forty-eight hours.[2] Pulmonary edema is often noted and death is commonly attributed to atelectasis.

At autopsy, one sees grossly clear yellow fluid in the pleural cavities with edema of the tissues. The right side of the heart and great vessels are distended with dark, fluid blood. The main bronchi and bronchioles are filled with clear frothy fluid, aeration being limited to the anterior borders of the lobes. In some sections, no aeration may be evident. Microscopically, the most outstanding feature is the presence of the glassy, homogenous, translucent, eosinophilic (hyaline) material previously described. It is distributed in membrane fashion throughout the lungs. With routine hematoxylin and eosin stain, it is a darker pink than the red blood cells and serum present and is seen plastered against the walls of the alveolar ducts and bronchioles. It may be seen lying loose in conglomerate masses in the alveoli. It usually assumes the typical homogenous appearance but occasionally shows the presence of epithelial cells and fat. Membranes commonly block off ducts and prevent them from reexpanding, thus producing a resorptive atelectasis.[3] Selective staining has shown the presence of cornified epithelial cells, vernix caseosa, r.b.c., nuclear remnants and bacteria to be a common but not characteristic finding. The fat content varies considerably. There is no evidence of fibrin, collagen, muscle, iron, amyloid or elastic tissue.[4]

Etiology:

a. Known Factors—While at this time the exact etiologic agent causing pulmonary hyaline membranes in the newborn is not known, there are numerous factors which have been shown to play a definite part in the syndrome. Prematurity of the infant is probably the most important. The frequency with which this condition is found varies inversely with the birth weight. Its greatest frequency is seen in groups weigh-

ing from 1000 to 1500 grams and is almost absent in the weight group over 2500 grams.[1, 7] Furthermore, it is known that breathing is necessary for the formation of the membrane as it has never been reported in a stillborn child.[4, 7] In animal experiments air breathing for at least one hour was set as a minimum.[4, 10] In observations with humans it is noted that the severity of the lesion increases with length of life. Atelectasis is a constant accompanying finding and many deaths formerly ascribed to congenital atelectasis were no doubt cases of hyaline membrane disease. Such factors as sex, color, heredity, age of mother, parity, Rh and serology play no part in the production of this condition. Finally, although many neonates with this condition no doubt go on to recover, diagnosis necessarily depends on a high degree of suspicion.[5]

b. Historically—This condition has no doubt been noted in passing from earliest times but was variously passed off as aspiration pneumonia, atelectasis, congenital pneumonia, or as part of the other complexes found in the specimen. In 1925 a paper entitled "Pneumonias in Still and Newborn," written by Johnson and Meyers, described the pathological finding of an eosinophilic hyaline membrane as an entity.[6] To this they gave the name "asphyxia neonatorum" which was "pneumonia in newborns resembling influenza." Because of similar lesions noted in persons dying from war gases they investigated the possibility of inhalation of irritants applied to the vulva of the mother being the causal agent. Their experiments did not support this and they concluded that the membranes were due to the inhalation of vernix caseosa by the fetus while in utero.

Farber and Sweet, Farber and Wilson, Macgregor, Baar, Gruenweld, Labate, Morison and Nelson subsequently supported the above view as to etiology of hyaline membranes in the newborn and the term "vernix membrane" found wide acceptance. Dick and Paul described two types of membranes in the lungs of live born infants. Those containing fat were thought to consist of vernix; the etiology of those without fat was not explained. The term "desquamative aneurosis" was used by Rosenthal to explain a similar lesion which he found in both still and live born. These children had shown signs of clinical anoxia in utero. In these lungs an eosinophilic hyaline membrane was found which he attributed to degeneration of desquamated bronchiolar epithelium.[3]

Along with the above observations, hyaline-like membranes were produced in laboratory animals by the intra bronchial insufflation of autolysed pus from human patients,[8] the insufflation of weak HCl acid solutions,[9] and with egg albumin.[6]

Thus, the consensus in earlier years was that the hyaline membranes frequently described in the neonatal period were due to inhalation of vernix caseosa, though similar membranes found in the lungs of adult patients were believed to be produced by fusion of necrotic cells.

c. Recent Investigation—That this theory did not satisfy all investigators is evidenced by the volume of recent (1950-1951) experimentation. Miller and Hamilton attempted to find a solution by answering the questions "what infants are most likely to aspirate and what are the evidences for the aspiration of sac contents?"[7] Since it is known that the vernix is developed late in fetal life, the full term infant would be more prone to aspirate the characteristic cells and fluid. Furthermore, they did not find these characteristic epithelial cells and fat in combination in their hyaline membranes. Thus, they conclude that the condition is due to an injury to the terminal air spaces and bronchioles sustained during fetal life. They do not know the etiology of the injury but feel that it is not related to maternal complications as they could find none.

Tregillus, reporting in 1951, likewise found no element of maternal complication or fetal distress as a contributing factor in the production of hyaline membranes.[3] His pathological findings differed somewhat from other investigators in that he noted a typical degenerative change of the nuclei and entoplasm in the broncheolar epithelial cells. He describes a gradual transition of this material to the typical hyaline membrane. With these findings it is his opinion that the lesion is due to a necrosis and hyalinization of the bronchiolar epithelium. Since the findings were predominantly in prematures who often evidenced difficulty in breathing at birth, he holds that anoxia is the primary cause. With prematurity the epithelium would be more susceptible, the muscles of respiration weak, and the respiratory center may not be as fully developed as in the mature. These factors initiate the process with the membranes causing a more severe anoxia with the formation of a vicious circle. His therapy would be O_2 for all prematures.

Interestingly enough this therapeutic agent is considered by Bruns and Shields to be the most likely etiologic agent.[1] In the analysis of a large series of cases of hyaline membrane disease, their only consistent finding was the administration of O_2 in percentages varying from 30 to 95% at or shortly after birth. Furthermore, they were able to produce typical membranes in guinea pigs by subjecting them to high O_2 concentration and pressure for a short period of time. They concluded that there is a critical concentration of O_2 above which one may get hyaline membrane disease, sclerema, and retrolental fibroplasia.

Whereas, in the past, antenatal factors have been given little significance as a contributing factor for the formation of membranes, Blystad, Lauding and Smith have recently reported a high incidence of

complicated labor causing fetal anoxia in the presence of hyaline membrane disease. Caesarean section, placenta praevia and fetal distress were a common finding.[4] They hold that with fetal anoxia intrauterine respiratory movements occur and aspiration of amniotic fluid occurs. By careful examination of pathological specimens they identified the protein of the membrane to be the same as that found in amniotic fluid. They felt that the fat content of the membrane was too small to be attributed to vernix and concluded that the etiologic agent was aspiration of amniotic fluid alone. Experimentally they were unsuccessful in producing membranes in living animals by intratracheal insufflation of sterile amniotic fluid, but by artificially expanding lungs with 15-20 c.c. of this material for one hour a typical early form of membrane resulted.–With the work of Miller, Behrle and Gibson in 1951, a new approach to the problem was made. They had noted the presence of a hyaline membrane in vagotomized dogs and with this stimulus set up experiments of their own. Using rabbits, they noted the consistent appearance of pulmonary hyaline membranes following bilateral mid cervical vagotomies.[10] Pulmonary edema was constantly present as was a compound identified as polysaccharide aldehyde. They further noted a higher percentage of membranes in dogs surviving more than ten hours. Following this initial work, Miller and Behrle continued the study of the vagus, this time in newborns. As is known, the vagus regulates the rate and rhythm of breathing, contributes to tone of muscles of respiration and with the phrenic nerve has a relationship to diaphragmatic breathing. These authors feel that, at birth, breathing is a relatively simple action with the vagi and phrenics chief afferent and efferent arcs and that immaturity of the vagus could be disasterous. By an ingenious technique they showed that in most children at birth the respiratory movements of chest and abdomen are synchronous, tending to be replaced at a later age by opposition. This is occasionally seen at birth in mature children and is attributed to increased diaphragmatic tone. On the other hand, a synchronous breathing was occasionally seen in premature children, but could be differentiated from the former. Here it was due to insufficient tone of the diaphragm with a compensation on the part of the thorax. Interestingly enough, this was found in one child who died in the course of the experiment who at autopsy was found to have a typical hyaline membrane.[11]

If the above findings are valid, the etiology of vagal insufficiency must be considered. The relationship of vagal afferents to the phrenic nerve has been shown experimentally. It is generally considered that newborns have poor vagal activity as evidenced by rapid heart action, low output of HCl in the stomach, poor peristalsis and a depressed cough reflex. These may all be due to poor response of vagal afferents. Thus, with the findings it is certainly conceivable that the vagal influence of diaphragmatic breathing may play an important part in the formation of pulmonary hyaline membranes in the newborn.

At present the most probable explanation of hyaline membrane disease is a combination of some of the preceding theories. Prematurity itself, with all of its shortcomings, is no doubt the most important factor. With this there is a generalized immaturity of all organ systems and the immaturity of the respiratory system is a marked handicap to deal with. Complications of pregnancy with fetal anoxia and intrauterine respirations appears to be an important factor as well. Aspiration of amniotic contents, whether it be true vernix or merely amniotic fluid, is probably the foundation on which the membranes are formed.

Diagnosis and Treatment:

The prevalence and severity of this condition is such that it would be far better to overdo this diagnosis than to lose one infant from the disease due to complacency. On prevailing evidence one should make a working diagnosis of hyaline membrane disease by:

a. Suspecting the disorder in all premature deliveries, with or without complications.

b. Suspecting its presence in all complicated deliveries, especially Caesarean sections, placenta praevia, and those evidencing fetal anoxia. It is known that children born by Caesarean section of diabetic mothers are especially susceptible, and by measurement are known to aspirate 14 c.c. of amniotic fluid.

c. Suspecting its presence in any child showing signs of respiratory difficulty in the first twenty-four hours of birth. If cyanosis and dyspnea are present and progress from the second and third hour, the diagnosis is well justified.

Treatment consists of:

a. Cleansing the mouth and throat of all newborn infants prior to first breath. An infant aspirator may be used if necessary. This will prevent additional aspiration if any has taken place and decrease the total amount of membrane-forming medium.

b. Gavaging the stomachs of all children born by Caesarean section immediately after delivery. This should be especially adhered to in the case of a child born of a diabetic mother. The 7-14 c.c. of fluid swallowed by the child if added to the amount already aspirated may well be enough to cause the development of the membrane.

c. Administering adequate O_2 with water nebulizer to all premature children regardless of condition at birth. Similar treatment should be administered to any child who shows evidence of respiratory difficulty

shortly after birth. The oxygen will of course sustain their immediate need, while the water vapor will help soften the secretions aspirated before inspissation and membrane formation occur.

d. Recently a new aerosol preparation "Alevaire" (Winthrop-Stearns) has been developed and early reports indicate that its efficacy in the treatment of pulmonary hyaline membranes may be profound. It consists of glycerine, sodium bicarbonate, and a detergent "Triton WR-1339."

Experimental studies show that this preparation markedly lowers the viscosity of such secretions as saliva, bronchiectatic pus and amniotic fluid. Ravenel reports its use to be of great worth in cases presenting the clinical picture of hyaline membrane disease and recommends its use as a mist introduced into a croupette by bubbling O_2 through the preparation.[12]

e. Finally, any neonate presenting symptoms compatible with hyaline membrane disease should receive prophylactic penicillin and streptomycin therapy until the pulmonary condition clears.

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CLINICO-PATHOLOGICAL EXERCISE

Presented at the Eastern Maine General Hospital

Discussion by Albert W. Fellows, M. D.

Carl W. Irwin, M. D., presiding

Edited by Richard C. Wadsworth, M. D.

This 16-year-old white female was admitted to the E. M. G. H. on 12-31-52 at 10:40 p. m. She was accompanied by her mother. The child was disoriented, responding only crudely to questions. She complained only of headache. There was no abdominal discomfort. The history was obtained from the mother who appeared to be not too well informed. It was later learned that the mother started in labor shortly after the interview. The child had apparently been vaguely ill for about one week with symptoms of an upper respiratory infection, sore throat and some swelling of the face. There is no history of renal disease, diabetes, etc. She is said to have had two convulsions prior to admission to the hospital.

Physical examination reveals a struggling, moaning child with Temperature of 99.6° F. (Axillary); Pulse 110; Respirations 60; Blood Pressure 180-190/120-80 mm. Hg. There are dry crusted lesions on the lips. The throat is not visualized. The pupils are dilated and react to light. The fundi are not well visualized. Tortuous vessels are seen on the left. The disc outline appears fuzzy. There is a suggestion of exudate seen. No localizing C.N.S. lesions are found during a rather incomplete neurological examination. The neck is supple. There is a bilateral flexor response to plantar stimulation. Harsh breath sounds are heard throughout both lung fields. The chest is resonant to percussion. There is tachycardia with regular rhythm. There is a question of a harsh systolic murmur at the apex. The abdomen is soft. The kidneys are not palpable.

Laboratory Findings: Blood Group A, Rh positive.

12-31-52. Hb. 10.5 gm. (67%); W. B. C. 24,550; Polys 84%; Bands 8%; Metas 1%; Lymphs 7%.

12-31-52. *Urine:* Yellow; cloudy; acid; 1.023; albumin 3.0%; sugar slight trace; acetone three plus; diacetic acid negative; pH 5.5; few hyalin casts; few leukocytes; 20-30 erythrocytes.

12-31-52. *Chemistry:* CO_2 C.P. 19 meq.; Dextrose 201 mg.; NPN 38 mg.

Course in Hospital: The patient remained excessively restless until 2:15 a. m. on 1-1-53, at which time she had frank hemoptysis. Suction was applied and one pint of blood was aspirated. She was transfused with two pints of whole blood. Bleeding was attributed to probable ruptured vessel in lung. Frothy, blood-tinged fluid exuded from both nostrils. Her color became poor and she expired at 8:30 a. m. on 1-1-53.

Discussion

Dr. Albert W. Fellows: We have here a 16-year-old girl without a history of chronic disease, who was sick for a week, apparently not seriously, with upper respiratory symptoms. She suddenly became violently ill with involvement of the central nervous system, lungs, and kidneys, then had a massive hemorrhage, apparently from the lungs. On admission she had in addition, moderate fever, hypertension, eye signs, and marked leukocytosis.

Let us first clear away a few minor considerations. The facial swelling and urinalysis indicate nephritis. The hypertension and eye signs suggest chronic nephritis. The blood pressure, could, however, be due to cerebral edema or sudden hydrocephalus and there was one normal diastolic pressure reading. The examination of the fundi was unsatisfactory, so I do not know how much dependence to place upon it. There was no past history of renal disease, no enlargement of the heart is mentioned, and the NPN was normal. I shall, therefore, assume an acute nephritis. The cerebral damage was of too short duration to produce choked disc.

The throat was not seen. Did a stiff jaw or an accumulation of mucus hide a peritonsillar or retropharyngeal abscess? There is no evidence of that, nor is there enough to talk of diabetes. The acetone and the low CO_2 can be explained adequately by pneumonia. The leukocytosis indicates a severe infection and the nearly total lack of a shift to the left suggests poor resistance. The crusted lesions on the lips were probably herpes. There was a "question of a harsh systolic murmur." Evidently the examiner could not determine whether the sound came from heart or lungs. There is nothing here to suggest organic disease of the heart. A pulse rate of 110 could hardly be called a tachycardia.

Obviously there was a serious disorder of the brain. Could it be meningitis? The absence of a stiff neck and of reflex changes does not rule it out, but we are given no positive evidence. The symptoms and blood pressure are consistent with cerebral edema, very likely with pinpoint hemorrhages or miliary abscesses, and I feel that this is a more likely diagnosis. Toxic encephalitis is also possible. A brain abscess should not kill so quickly.

The twice normal respiration-pulse ratio points to pneumonia. The harsh breath sounds are not inconsistent, especially since there is no mention of stertorous breathing. They may, of course, have been due to mucus or abscess in the throat, but of that we know nothing. The normal percussion note is perfectly possible in bronchopneumonia with compensatory emphysema in the uninvolved portions. The child was too sick to make lobar pneumonia likely.

The most dramatic symptom was the hemoptysis of a pint. I shall accept "hemoptysis" as read because of the frothy fluid coming from the nose, and the rarity of gastric hemorrhage in pneumonia. Hemoptysis makes one think first of tuberculosis. This disease is known occasionally to hit an adolescent girl suddenly and hard. The cerebral symptoms could be due to tuberculosis. However, the pathologist tells me the girl was well nourished, and there were no monocytes mentioned in the blood count. I think there is a better diagnosis. The staphylococcus and Friedlander's bacillus both can produce tissue destruction, abscess, and consequent erosion of a vessel. I have never seen massive pulmonary hemorrhage in ordinary pneumonia.

Pneumonia nowadays is often the result of two infections working together or in sequence. An upper respiratory infection, a virus, or influenza bacillus, or other organism weakens the resistance, and the staphylococcus, pseudomonas, etc., prostrate the patient. Another sequence, unfortunately coming into prominence, stems from the injudicious use of penicillin as a universal remedy. This valuable medicine can kill off the normal flora of the throat and allow penicillin-resistant staphylococci, pseudomonas, fungi, etc., to flourish.

It would be interesting to know whether this patient had had penicillin, particularly oral or troches, before becoming seriously ill.

I believe that the sequence of events was an acute upper respiratory infection and then an overwhelming septicemia, quite possibly staphylococcic. I shall predict that the autopsy will show septicemia, probably staphylococcic, cerebral edema, possibly with pinpoint hemorrhages, purulent bronchopneumonia with miliary abscesses, one of which eroded a vessel, and recent nephritis.

Dr. Richard C. Wadsworth: I'd like to call on Dr. Wood to make some remarks about this case.

Dr. George Wood: I would agree with Dr. Fellows concerning the diagnosis and would place the possibilities in the same sequence. It is possible, though not probable, to explain this picture on the basis of miliary tuberculosis with diffuse involvement of lungs, meninges and kidneys. The massive hemoptysis might better be explained by the erosion of a parenchymal vessel rather than by a diffuse oozing.

Dr. Fellows: There is no mention of monocytosis in the peripheral blood.

Dr. Wood: I don't think the presence or absence of monocytes is too significant in early fulminating tuberculosis.

Dr. Stephen Monaghan: Could the blood have come from the posterior pharynx and have been aspirated into the respiratory tract?

Dr. Fellows: There was no mention made of large tonsils or of any pus coming from the tonsillar region to suggest the possibility of bleeding from a ruptured peritonsillar abscess.

Dr. Wilbur Manter: Could this whole picture be explained by a meningococcemia with a rapidly fulminating course?

Dr. Fellows: There were no petechiae of the skin and no characteristic meningeal signs.

Dr. Wadsworth: Was Dr. Manter thinking of a Waterhouse-Friderichsen syndrome?

Dr. Manter: Yes, a meningococcemia leading to hemorrhage in the adrenal glands. Is this ever associated with hemorrhages elsewhere, such as pulmonary hemorrhage?

Dr. Wadsworth: I have not heard of such a case.

Dr. Monaghan: I would like to hear more discussion of the possibility of glomerulonephritis.

Dr. Fellows: One can have a high blood pressure and albuminuria in acute glomerulonephritis. There is no mention of any edema of extremities. The N.P.N. was normal. I don't believe an acute nephritis could kill a person so quickly with such severe cerebral manifestations without nitrogen retention.

Dr. Wadsworth: When you speak of acute nephritis, are you thinking of toxic damage to kidneys due to infection elsewhere or are you referring to an acute diffuse glomerulonephritis?

Dr. Fellows: I was referring to acute renal damage secondary to infection elsewhere.

Dr. Wadsworth: Would you expect the kidneys to show more tubular than glomerular damage?

Dr. Fellows: I would expect more glomerular damage in an acute fulminating infection. There is no past history of hematuria or known kidney disease. Since the patient was poorly developed she might have had congenital polycystic kidneys.

Dr. Wood: I am interested to know what the clinicians thought who saw this patient. They did not do a lumbar puncture. Did they feel there was an adequate explanation for this picture which precluded a lumbar puncture?

Dr. Carl Irwin: They felt there was an acute pyogenic infection probably superimposed on a chronic glomerulonephritis. The hemoptysis was thought to be due to a ruptured pulmonary vessel.

Dr. Eugene Brown: I can't go along too far with the diagnosis of glomerulonephritis. I'm wondering about an explanation for the C.N.S. symptoms on the basis of embolic phenomenon, with possibly a congenital heart and superimposed valvulitis. The clinical record suggests that there was really quite a pulmonary hemorrhage. Could there be any blood dyscrasia?

Dr. Wadsworth: There is nothing in the laboratory work to give any clue.

Dr. Brown: There were no petechiae or ecchymoses. I can't feel satisfied with the explanation of the severe pulmonary bleeding.

Dr. Lawrence Cutler: I'd like to suggest subacute bacterial endocarditis with ruptured mycotic aneurysm and cerebral hemorrhage. This might explain the convulsions.

Dr. Fellows: I think the high blood pressure could be explained on the basis of cerebral edema with or without small perivascular hemorrhages or possibly to hydrocephalus. I would assume that the chest was so noisy that it could not be determined whether this "question of a rough systolic murmur" was from the heart or lung.

Dr. Manter: This might be a good time to emphasize the importance of describing cardiac murmurs in regard to both quality and intensity.

Dr. Benjamin Shapero: How does one account for the elevated blood dextrose?

Dr. Cutler: Were any I.V. fluids given? Hyperglycemia on admission could be due to Cushing's syndrome or to pheochromocytoma.

Dr. Wood: One might suspect a probable involvement in the region of the hypothalamus, possibly from an embolus.

Dr. David Evancie: Should one consider the possibility of acute rheumatic fever to explain the extensive hemorrhage? It is hard to explain a massive hemoptysis but it might have been aspiration following epistaxis as we have had at least one case of nosebleed with hemoptysis of bright red, frothy blood.

Dr. Wadsworth: At autopsy there was a very well-developed and well-nourished white female child measuring 64½ inches in length. There were palpable lymph nodes in the left axilla and in the left inguinal region. The face appeared swollen. The odor of paraldehyde was perceptible when the incision was made through the subcutaneous tissues. The fat over the mid-thorax measured 0.8 cm. in thickness and over the mid-abdomen 1.5 cms. The peritoneal cavity contained 1½ liters of clear colorless fluid. The liver extended 10 cm. below the right costal margin. Each pleural cavity contained approximately three liters of clear yellow fluid. The pericardial sac contained 80 c.c. of clear yellow fluid.

The thymus weighed 35 gms., within normal limits for a girl of this age and size. Grossly the heart was not remarkable except for a slight ballooning of the left ventricular cavity. Both the aortic and pulmonic rings were rather small in circumference (5.5 and 5.7 cms. respectively) for a heart of this size, whereas the mitral and tricuspid rings were of average measurements. Histologically the only abnormalities observed were small scattered hemorrhages in the epicardial fat and a few small foci of lymphocytes scattered between the myocardial fibers.

The lungs were abnormal both grossly and microscopically. The left lung weighed 829 gms.; the right lung 817 gms. Average lung weights for this girl would be from 420-600 gms. for the left lung and 480-600 gms. for the right lung. Grossly both lungs were moderately firm and dark reddish-purple in color. On section an abundant quantity of blood-tinged frothy fluid exuded from the cut surface of each lung. The cut surfaces were reddish-gray in color. That of the left upper lobe was somewhat more firm than that of the other lobes. The trachea and larynx appeared essentially unaltered. Micro-

scopically, there was a diffuse pneumonic process involving all five lobes. Most of the alveoli were packed with erythrocytes, polys, plasma-cells, desquamated epithelial cells and histiocytes. In some sections fat-laden phagocytes were demonstrable in the lumina of the alveoli. Occasional alveoli and small bronchioles appeared plugged with fibrin. Especially conspicuous was a rather thick hyaline membrane replacing the epithelium lining the terminal bronchioles and alveolar ducts. In some of the terminal bronchioles there was a heaping up of the epithelial cells lining these structures. In most of the bronchi and in many of the bronchioles there was extensive desquamation of the lining epithelial cells. Occasional small areas of diffuse hemorrhage were seen in the lung tissue. No inclusion bodies were demonstrable. Megakaryocytes were demonstrable in the pulmonary capillaries.

The spleen was moderately enlarged, weighing 288 gms. (normal 155-195 gms.). The capsule appeared dark blue to bluish-purple in color. On section the spleen was dark red with prominent lymphoid follicles. Microscopically there was marked congestion with a slight increase in the number of polys in the splenic pulp.

The pancreas appeared slightly congested grossly. A few scattered areas of post-mortem necrosis could be seen histologically. No other abnormalities were noted.

The gastric mucosa appeared quite well preserved. Numerous mucosal hemorrhages were noted in the small intestine. These were most marked in the duodenum. Microscopically there were capillary hemorrhages in the stomach, duodenum, jejunum and ileum. There were scattered areas of mucosal erosion in the duodenum and ileum. The large bowel appeared intact.

The liver was somewhat enlarged, weighing 1681 gms. The capsule was smooth, glistening and reddish-brown. On the cut surface scattered yellowish-brown areas were demonstrable on a reddish-brown background. Microscopically there was moderate vacuolization of the liver cells in the central zones.

The adrenals were small. Microscopically the cortices were thin. The zonae glomerulosae were especially hypoplastic. Very few lipoid droplets were observed in the zonae fasciculatae. The adrenal medullae were not remarkable.

The combined weight of the kidneys was 300 gms. The epithelium lining the proximal convoluted tubules appeared swollen. Occasional hyalin casts were observed in the collecting tubules. The glomeruli and blood vessels were well preserved.

The uterus, tubes, ovaries, breasts and thyroid were essentially unaltered.

There was moderate enlargement of many of the mesenteric lymph nodes. Microscopically they showed moderate congestion, dilated sinusoids and occasionally scattered polys, eosinophils and vacuolated large mononuclear cells.

The brain weighed 1553 gms., whereas the normal brain weight for this girl should be from 1250 to 1275 gms. Moderate cerebral edema was the only demonstrable abnormality.

A post-mortem blood culture showed Escherichia coli.

Unfortunately no virus studies were obtained on the material secured at autopsy. The colon bacilli were probably post-mortem contaminants from the gastro-intestinal tract. The elapse of approximately eight hours between death and the onset of the autopsy suggests this possibility. The microscopic picture of the lungs is consistent with that seen in certain types of pneumonitis caused by filterable viruses. The relative paucity of leukocytes in the inflammatory reaction, the relative paucity of fibrin in the alveoli, the epithelial proliferation in the terminal bronchioles and the prominent hyaline membrane in terminal bronchioles and alveolar ducts are suggestive of a virus pneumonitis.

Hyaline-membrane pneumonias have been the subject of considerable discussion in recent years, with particular emphasis on the pulmonary hyaline membranes found in those premature infants who appear to do well for a few hours and then develop progressive cyanosis and dyspnea with anoxemic death in from eight to thirty hours. Although some investigators have suggested that aspiration of amniotic fluid plays an important part in the production of the hyaline membrane in these cases, Arey has pointed out that the preponderance of hyaline membranes in premature infants and the occurrence of hyaline membranes in older children and adults in whom vascular damage has been produced by a variety of means, suggests that the protein which produces this membrane is probably derived from the blood rather than from the amniotic fluid. Histochemical studies have shown a marked similarity in the structure of the hyaline membranes of the newborn and those found in the lungs of older infants and children. The only difference that has been detected so far is a quantitative difference in the amount of desoxyribonucleic acid, which seems to be present in smaller amounts or not at all in the membranes of newborn infants.

Hyaline membranes in adults have been reported in atypical pneumonia, psittacosis, influenza and in some cases of streptococcus pneumonia and pneumonia in the uremic patient. It is not a pathognomonic finding.

The clinical course of this patient with a mild upper respiratory infection followed by a fulminating pneumonia accompanied by cerebral symptoms and rather sudden death and the microscopic pulmonary pathology described above suggests but does not prove that this patient died as a result of a virus pneumonia of the influenza type.

Dr. Shapero: To what do you attribute the hypertension and the hyperglycemia?

Dr. Wadsworth: The hyperglycemia is probably secondary to the cerebral edema. The hypertension was probably on the same basis. There was not enough glomerular or vascular damage in the kidney to suggest that the hypertension was due to renal disease.

Dr. Robert Kellogg: Was the cause of death anoxia due to pulmonary insufficiency or anoxia due to cerebral edema?

Dr. Wadsworth: It was probably due to both. The pulmonary anoxia probably acted to increase the capillary permeability and to create increased cerebral edema.

Dr. Kellogg: Does the absence of lipoids in the adrenal cortex suggest that this patient had a relative lack of adrenal cortical reserve?

Dr. Wadsworth: I am unable to make that correlation. Many patients with fulminating acute infections may show an absence or decrease of lipoids in the adrenal cortex.

Dr. Shapero: Is the leukocytosis an indication that this is probably not a virus infection?

Dr. Wadsworth: One might be more suspicious of a virus infection if there were a leukopenia. The leukocytosis may be explained on the basis of secondary infection.

Dr. Wood: What recommendations do you have as to the therapy that might have been used?

Dr. Wadsworth: In a patient as severely sick as this girl obviously was, one might be less scientific and administer several antibiotics to cover a broader spectrum even at the risk of destroying evidence of the etiologic factor. It would be preferable, if possible, to take cultures first and then to hit hard with a battery of antibiotics.

Dr. Fellows: Throat cultures are usually worthless in a case of this type. On the pediatric service we take immediate nasal cultures. When the cultures are reported we can decide which antibiotics we should eliminate. Should adrenal cortex be given to this type of patient?

Dr. E. Brown: Three infants on our service with acute infections, who were getting progressively worse, were given cortisone without effect. In acute infections cortisone is generally contraindicated. I do not believe that adrenal cortical hormone would have been beneficial. Although the etiology of this illness was not established, I believe that the diagnosis of viral influenza is the best bet as we saw many cases in the first few months of this year which clinically fitted in that category. The crusting of the lips was probably a herpes simplex infection. Is there any known pulmonary infection due to this virus?

Dr. Wadsworth: There is a herpetic meningoencephalitis, but I know of no herpetic pneumonitis. Although we searched carefully for inclusion bodies we are unable to demonstrate any.

Dr. Lloyd Morris: About the same time of the year I performed an autopsy on a young boy with much the same clinical picture and similar postmortem findings. In this other case there was a less marked hyaline membrane and more of a purulent response associated with the formation of many small abscesses. We thought this was evidence of bacterial infection superimposed on an initial virus infection.

Dr. Wood: Do you think there was enough obstruction of the small bronchioles and alveolar ducts by the hyaline membrane so that oxygen administration by positive pressure would have been of no value?

Dr. Wadsworth: I don't think the hyaline membrane was an important obstructive element. In no place was the lumen completely obstructed. I think that the patient was in great need of oxygen and that any method that could cause oxygen to reach the terminal bronchioles would have been worth trying.

New Exhibits On Accidents and Immunization

Leading causes of accidents and how to prevent them . . . various immunizing agents and the diseases they prevent . . . comprise the themes of two new health exhibits now available from the American Medical Association. The first—"Home Accidents"—shows pictorially the primary causes of accidents and their prevention in the different age groups, from babies and tots to teenagers and the aged. It points up the leading causes of death — burns, suffocation, falls and poisons. Minimum space required is ten by six feet. The other exhibit on "Immunization" deals with various preventive agents used in fighting such diseases as smallpox, diphtheria, whooping cough and tetanus. A question-and-answer box is included to take care of the most commonly-asked questions. Primarily designed for small groups, this portable exhibit measures 44 inches by four feet. Both exhibits may be secured from the Bureau of Exhibits for local showings by state and county medical societies.

The Journal of the Maine Medical Association

THOMAS A. FOSTER, M. D., Portland, Editor

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EDITORIAL SECTION

Journals and Judgements

A State Medical Journal appearing as it does regularly month after month tends to follow a pretty definite pattern usually along conservative standards. On the whole such a policy is a good policy. It is true, however, that changes from time to time in department and general layout of the Journal make it more effective.

The State Journal Advertising Bureau and the headquarters of the American Medical Association publishing bureau believe in the value of State Journals and stand ready to offer suggestions for improvement. Every two years, therefore, the S. J. A. B. and the A. M. A. together sponsor a conference of State Journal editors and business managers. The conference for 1953 was held during November at American Medical Association headquarters in Chicago, 535 N. Dearborn Street.

The editor and business manager of our State Journal were among the participants. We found ourselves participating in a fast moving and informative program. For four sessions, two mornings and two afternoons, we listened to authorities in many sections of journal and advertising fields. A partial list follows: Dr. Austin Smith, Editor of *The Journal of the American Medical Association;* Mr. Fred Sands, Advertising Manager of Schering Corporation; Paul de Kruif, Ph.D., Roving Editor for *Readers Digest;* Kenneth Butler, President, Wayside Press; Mr. Alfred Jackson, Director of the S. J. A. B.; Professor Paul D. Bagwell, Head of the Department of Communications Skills, Michigan State College; Mr. William Coulter, President of Bruce Publishing Company, St. Paul. Other interesting speakers presented carefully prepared papers.

The meeting strengthened our belief in the value of State Medical Journals. Editors emphasized the importance of publishing scientific papers from members of the state societies. They, furthermore, urged Editorial Boards to scrutinize manuscripts carefully, to make corrections in the construction when necessary, to urge the writers of the articles to prepare papers in plain, concise language and to employ originality. It was stated by more than one speaker that a scientific subject need not be a dull subject when put on paper for publication. Clear writing, accurate writing, correct construction all add up to produce an attractive readable essay or report. We subscribe to all of the recommendations.

The meeting, also, convinced us that State Journal advertising pays off. Surveys presented, pointed up the interesting fact that Journal advertising brought better results from the advertising dollar than direct mail advertising or direct detailing interviews. A good state journal attracts generous advertising appropriations from the pharmaceutical houses. The contents of our JOURNAL every month receive careful consideration from our advertisers. We earnestly suggest to our contributors that they review their manuscripts carefully, rewrite if doubtful about construction and inject their personality into the paper. We assure our members that the journal office will continue to apply itself to all the duties pertaining to journal publication.

Annual Meetings and Annual Orations

The Portland Medical Club now 77 years old has embellished its annual meeting for a good many years to the writer's knowledge with an Annual oration. This year the members were entertained at the annual meeting with an oration by Dr. Roland B. Moore, entitled "The Illustrious Listerians." The Listerians in this case were a group of Portland physicians organized by Dr. Alfred King shortly after he established himself in Portland.

The purpose of this editorial is not to add luster to the Listerians above mentioned but rather to suggest to the members of the State Association that they consider plans for establishing annual orations at the State Meeting.

The custom of providing annual orations is not a light and transient one. Our neighbors in New England have established many of them. This year Dr. Sara Jordan delivered the Annual Oration before the Massachusetts Medical Society under an intriguing title "Medicine and the Doctors in Word and Epigrams" and Sir Alexander Fleming of London, England, gave the Annual Shattuck Lecture. In Rhode Island, Dr. George M. Wheatley, third vice president of the Metropolitan Life Insurance Company as guest speaker, presented the 12th Annual Charles V. Chapin Oration, "The Practicing Physician and Accident Prevention." Also this year Connecticut inaugurated an annual oration called "The Charles Edward Amory Winslow Lecture" and Dr. Leonard A. Scheele delivered it.

The Maine Association has the distinction of being able to qualify as a member of this group. Three years ago the directors of the Maine Tuberculosis Association voted to appropriate a sum of money each year to be presented by the Maine Medical Association to a speaker who would address the annual meeting on some phase of the tuberculosis problem or some phase of chest disease. Last June, Dr. Alton S. Pope, former President of the National T. B. Association, spoke before the State Society on the subject "Determining the Factors in the Course of Tuberculosis." We hope that the Maine Tuberculosis Association will continue this generous appropriation and that the oration will be an annual event but we, as a State Association, have not the power to continue it. We think that an oration on a State Association basis would be a dignified and interesting part of our annual program.

Miami Society Conducts Plaque Poll

Universal display of the AMA plaque, "To All My Patients," in doctors' offices was recommended by the majority of the Miami, Fla., physicians responding to a recent informal poll conducted by the Dade County Medical Association. Many favorable comments on the plaque were received from physicians whereas only one doctor gave a definitely unfavorable response. Typical patient comments noted by these physicians ranged from "a good idea" to "glad to see we have a humanitarian amongst the profession." Only one doctor reported a negative patient response which implied that medicine is "becoming too commercialized."

This poll brings out the fact that most patient fee questions concern the cost of doctors' services, the cost of hospital services, making arrangements to pay doctor bills and insurance. From the doctor's point of view, the discussion of fees was indicated to be "easy" by 42 per cent of the group, "relatively easy" by 35 per cent, "fairly difficult" by 15 per cent and "difficult" by only 8 per cent. The questionnaires were distributed to 112 physicians — representing a cross section of the medical society membership — about a month after some 1,000 plaques had been distributed free by the local society.

To help practicing physicians create better relations with their patients, the American Medical Association is continuing to offer this plaque for one dollar, postpaid. Direct your requests for the plaque to the Order Department, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

Health of Workers Subject of AMA Congress

Ways of keeping well workers well and on-the-job are among the topics to be considered by representatives of labor, management and medicine at the 14th annual Congress on Industrial Health. Sponsored by the AMA's Council on Industrial Health, the Kentucky State Medical Association and a number of additional national and regional groups interested in health and safety for the smaller industrial plant, the meeting will be held February 24-25 at the Brown Hotel, Louisville, Ky.

In addition to the above subjects, the program also will be devoted to consideration of the control of emergencies in industrial plants and the community as well as other technical problems of current interest in the industrial health field. Two special features will be a workshop on emphysema with reference to coal miners and a conference on union and management sponsored health centers.

A pre-conference planning session will be held February 23 for chairmen of state medical society industrial health committees and Council members to review progress during the past years and to determine future action.

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COUNTY SOCIETY NOTES

Hancock

A regular meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, Maine, November 11, 1953. There were eight members and three guests present.

The meeting was opened by the vice-president, Dr. Mason Trowbridge, who read a letter from Dr. C. Harold Jameson, Maine Chairman, American Medical Education Foundation, urging all doctors to contribute to the Foundation. The question of fluoridation of water was discussed and it was voted that the society go on record as being in favor of the fluoridation of public water supplies.

The speaker of the evening was Frederick Emery, M. D., of Bangor, who gave a very comprehensive and enlightening talk on Problems in the Care of the Newborn.

ARTHUR M. JOOST, JR., M. D.,
Secretary.

Kennebec

A regular meeting of the Kennebec County Medical Society was held at the Veterans Administration Center, Togus, Maine, November 19, 1953. Dinner at 7.00 P. M. was served to forty-six members and guests.

The business meeting was called to order at 8.00 o'clock by the President, Dr. Sommerfeld. He read a letter from Dr. C. Harold Jameson, Maine Chairman, American Medical Education Foundation, urging contributions to the Foundation. Dr. Sommerfeld appointed the following members to the Nominating Committee: M. Tieche Shelton, M. D., Chairman; Ralph L. Reynolds, M. D. and Clarence R. McLaughlin, M. D. This committee will present a proposed list of officers for the coming year at the annual meeting of the society.

The speaker of the evening, Charles Gardner Child, III, M. D., of Boston, was introduced by Dr. Zeltzerman. Dr. Child's subject, The Present Status of Radical Pancreatico-duodenectomy, was highly technical and very interesting, and was followed by a good deal of discussion.

A. H. MORRELL, M. D.,
Secretary.

York

A regular meeting of the York County Medical Society was held at the Kennebunk Inn, Kennebunk, Maine, November 18, 1953.

A fine dinner of steak or lobster was served at 1 P. M.

A very instructive and interesting program on Industrial Medicine was presented by the following speakers: Dr. Quimby, Dr. George Wilkens, Mr. Herbert Edgecome, Dr. Charles B. Burbank.

The following members were appointed to the Nominating Committee for new officers: Paul S. Hill, M. D., William F. Mahaney, M. D., Frank W. Barden, M. D.

There were 45 present; 21 guests and 24 members.

CHARLES W. KINGHORN, M. D.,
Secretary.

New Members

Aroostook

John D. Denison, M. D., Patten, Maine.
Robert N. Gabrielson, M. D., Caribou, Maine.
I. Mead Hayward, M. D., Caribou, Maine.
James B. Morrison, M. D., Ashland, Maine.
Harold D. Warren, M. D., Caribou, Maine.

Penobscot

Richard F. Desjardins, M. D., 240 Penobscot Ave., Millinocket, Maine.
Herbert C. Gilman, M. D., 240 Penobscot Ave., Millinocket, Maine.
Donald F. Kyer, M. D., U. S. Veterans Hospital, North Little Rock, Ark.

York

Thomas Anton, M. D., Biddeford, Maine.
Robert Ficker, M. D., Kennebunkport, Maine.
Marcel D. Ouellette, M. D., Sanford, Maine.
Roger Roberts, M. D., 331 Main Street, Saco, Maine.
Eugene Wolfahrt, M. D., 338 Main Street, Saco, Maine.

(The Council on Pharmacy and Chemistry of the American Medical Association has adopted the following statement which appears in New and Nonofficial Remedies, 1953, Philadelphia, J. B. Lippincott Company, pp. 171-173, 1953.)

METHANTHELINE BROMIDE.—*Banthīne Bromide (Searle)*

β-Diethylmethylaminoethyl 9-xanthenecarboxylate bromide

Actions and Uses.—Methantheline bromide, a parasympatholytic agent, produces the peripheral action of anticholinergic drugs such as atropine and the ganglionic blocking action of drugs such as tetraethylammonium chloride. Tolerated amounts of methantheline bromide exert side effects typical of atropine-like drugs, but cause less tachycardia, and also cause less postural hypotension than does tetraethylammonium chloride. Toxic doses produce a curare-like action at the somatic neuromuscular junction.

Clinical studies indicate that the drug effectively inhibits motility of the gastro-intestinal and genito-urinary tracts and, to a variable degree, diminishes the volume of perspiration and salivary, gastric, and pancreatic secretions. It also decreases mucoprotein secretion. Like atropine, it produces mydriasis and cycloplegia when applied locally to the eye or administered systemically, but until more clinical evidence becomes available, its local use for this purpose is not recommended. The value of the drug for preventing abnormal cardiac reflexes through the vagus during thoracic surgery, or as an agent for routine preoperative medication in place of atropine, requires further investigation before final conclusions can be reached.

Methantheline bromide is indicated for clinical use whenever anticholinergic spasmolytic action is desired, provided it is not contraindicated because of its atropine-like characteristics or because of a patient's intolerance to the unavoidable side effects of such therapy. It is useful as an adjunct in the management of peptic ulcer, chronic hypertrophic gastritis, certain less specific forms of gastritis, pylorospasm, hyperemesis gravidarum, biliary dyskinesia, acute and chronic pancreatitis, hypermotility of the small intestine not associated with organic change, ileostomies, spastic colon (mucous colitis, irritable bowel), diverticulitis, ureteral and urinary bladder spasm, hyperhidrosis or control of normal sweating which aggravates certain dermatoses, and control of salivation.

Methantheline bromide produces some degree of cycloplegia and mydriasis in therapeutic doses and therefore should not be administered to patients with glaucoma. It sometimes decreases the ability to read fine print. Xerostomia (dryness of the mouth) is a common, sometimes transient, side effect. Urinary retention of varying degrees may occur in elderly male patients with prostatic hypertrophy, and some patients may have difficulty emptying the rectum. Patients with edematous duodenal ulceration may experience nausea and vomiting during initial administration of the drug. These patients should take only liquids during the institution of drug therapy. All patients should be advised of the possible occurrence of side effects. Overdosage sufficient to produce a curare-like action may be counteracted by prompt subcutaneous injection of 2 mg. of neostigmine methylsulfate.

Dosage.—Methantheline bromide is administered orally or parenterally by either the intramuscular or intravenous route. Parenteral administration is not advised for patients able to take the drug orally. The average initial dose for adults, oral or parenteral, is 50 mg. For patients with considerable intolerance, 25 mg. may be employed. In the management of peptic ulcer, a beginning schedule of 50 mg. three times daily before meals, and 100 to 150 mg. on retiring is suggested. However, the usual effective dose is 100 mg. four times daily, although some patients may require more or less than this amount. The dosage may be increased to tolerance, using dryness of the mouth as a guide, and adjusted to meet the individual response of patients. Maintenance dosage in peptic ulcer is usually considered to be about one-half the therapeutic level. In the management of other hypermotile or hypersecretory states, the dosage should be adjusted to the smallest amount which will relieve the symptoms. When spastic conditions are secondary to inflammatory or other organic lesions, therapy directed toward the cause should be employed whenever possible.

G. D. SEARLE & CO.
Powder Banthīne Bromide: 2 cc. ampuls. 50 mg.
Tablets Banthīne Bromide: 50 mg.

NEWS AND NOTES

Postgraduate Course in Diabetes and Basic Metabolic Problems January 18, 19 and 20, 1954 at Rochester, Minnesota

The second Postgraduate Course in Diabetes and Basic Metabolic Problems to be conducted by the American Diabetes Association will be offered under the directorship of Edward H. Rynearson, M. D., and Randall G. Sprague, M. D., Consulting Physicians, Section of Medicine, Mayo Clinic; Professors of Medicine, Mayo Foundation, Graduate School, University of Minnesota, Rochester, Minnesota.

Developed by the Association's Committee on Professional Education, chaired by Edward L. Bortz, M. D., of Philadelphia, the Course will be held at the Mayo Clinic and Mayo Foundation, Rochester, Minnesota.

Highlights of the Course will be lectures by Charles H. Best, C.B.E., M. D., F.R.S., co-discoverer of insulin, Professor of Physiology; Director and Professor in the Banting and Best Department of Medical Research, University of Toronto; and by Joseph Hoet, M. D., Professor and Head of Medicine, University of Louvain, Louvain, Belgium. Doctor Best is speaking on "About the Pancreas" and Doctor Hoet is coming to this country especially to give a lecture on "Prediabetes in Pregnancy."

There will be a total of over thirty-five lectures and round table discussions. The first day of the Course (Monday, January 18) will be devoted to the "Clinical Aspects of Diabetes." Doctor Best will be Chairman of the morning session and Doctor Bortz will moderate the afternoon program.

"Complications of Diabetes" will be the subject of Tuesday's (January 19) program and Doctors Arthur R. Colwell of Chicago and Frank N. Allan of Boston, will be Chairmen of the morning and afternoon sessions respectively.

The Wednesday (January 20) morning program, headed by Doctor E. Perry McCullagh of Cleveland will be on the subject of "Nutritional Requirements and Diet in Diabetes." Doctor Randall G. Sprague, who is also President of the American Diabetes Association, will preside over the Wednesday afternoon session which will include a number of special topics such as hyperinsulinism and insulin malingering.

A dinner will be held on Monday evening, January 18, which will feature "A Practical and Metaphysical Demonstration of Visual Acuity Versus Manual Dexterity" by Oliver H. Beahrs, M. D., Ph.D., in Prestidigitation, of the Mayo Clinic and Mayo Foundation. Tours of the Medical Sciences Building and the Mayo Clinic New Building will be conducted on Tuesday and Wednesday afternoons.

The Course is open to non-member physicians as well as members of the American Diabetes Association, but the number of registrants will be limited to 125. Fees are $40 to members, $75 to non-members. Details of the three-day program and registration and hotel information may be obtained from J. Richard Connelly, Executive Director, American Diabetes Association, 11 West 42nd Street, New York 36, New York.

Maine Heart Association Officers

Charles W. Steele, M. D., of Lewiston, was elected president of the Maine Heart Association at the organization's annual meeting in Bangor, October 26, 1953. John O. Piper, M. D., of Waterville, retiring president, was elected chairman of the board; Fred P. O'Connell of Augusta, secretary; and John Barker of Portland, treasurer.

U. S. Civil Service Commission

The United States Civil Service Commission has announced a new Medical Officer examination for filling the positions of rotating intern, $2,800 a year, and resident in training in psychiatry and in neurology, $3,400 to $4,200 a year, in St. Elizabeth's Hospital in Washington, D. C. Appointments are to begin on July 1, 1954.

Appropriate education is required, plus, for the resident positions, successful completion of a full year's internship. No written test is required. Applicants must not have passed their thirty-fifth birthday (waived for persons entitled to veteran preference).

Further information is available at many post offices throughout the country and at the U. S. Civil Service Commission, Washington 25, D. C. Applications will be accepted by the Executive Secretary, Board of U. S. Civil Service Examiners, St. Elizabeth's Hospital, Washington 20, D. C., until further notice.

The Family Physician and Cardiac Surgery—Continued from page 333

2. Bliss, H. A., and Drake, E. H.: The Surgical Treatment of Mitral Stenosis. J. Me. Med. Asso., 44:230, Aug., 1953.
3. Harken, D. E., et al.: The Responsibility of the Physician in the Selection of Patients with Mitral Stenosis for Surgical Treatment. Circulation, 5:349, Mar., 1952.
4. Nadas, A. S.: The Medical Care of Patients with Congenital Heart Disease. Modern Concepts of Cardiovascular Disease, 12:178, June, 1953.
5. Gross, R. E.: The Patent Ductus Arteriosus. Observations on Diagnosis and Therapy in 525 Surgically Treated Cases. Am. J. Med., 12:472, Apr., 1952.
6. Dammann, J. F., and Sell, C. G. R.: Patent Ductus Arteriosus in the Absence of a Continuous Murmur. Circulation, 6:110, July, 1952.
7. Gross, R. E.: Coarctation of the Aorta. Circulation, 7:757, May, 1953.
8. Brock, R. C.: Direct Cardiac Surgery in the Treatment of Congenital Pulmonary Stenosis. Ann. Surg., 136:63, July, 1952.
9. Gross, R. E.: Surgical Closure of Interauricular Septal Defects. J. A. M. A., 151:795, Mar. 7, 1953.
10. Gross, R. E., and Neuhauser, E. B.: Compression of the Trachea or Esophagus by Vascular Anomalies: surgical therapy in 40 cases. Pediatrics, 7:69, Jan., 1951.
11. Taussig, Helen B.: Diagnosis and Management of Common Malformations of the Heart. Circulation, 6:930, Dec., 1952.
12. Sloan, R. D., and Cooley, R. N.: Congenital Pulmonary Arteriovenous Aneurysm. Am. J. Roent., 70:183, Aug., 1953.
13. Rudolph, A. M., Nadas, A. S., and Borges, W. H.: Hematology of Congenital Heart Disease. Pediatrics, 11:454, May, 1953.
14. Gluck, R.: Diagnosis of Congenital Cardiac Defects in General Practice (available on request from The Maine Heart Association, Inc.).

BOOK REVIEW

May's Manual Of The Diseases Of The Eye For Students And General Practitioners. Revised and edited by Charles A. Perera, M. D., Associate Clinical Professor, College of Physicians and Surgeons, Columbia University, New York; Attending Ophthalmologist, Presbyterian Hospital, New York. Ed. 21. 512 pages with 378 illustrations including 32 plates, with 93 colored figures. 1953, Williams and Wilkins Company, Baltimore. $6.00.

This textbook is remarkable both in that it attempts to encompass an entire specialty within the confines of a single manual and that it has gone through twenty-one editions. In the attempt to cover all diseases of the eye and its adnexa the book necessarily suffers from an oversimplification of its subject. Its almost universal appeal, however, attests to its success in offering a text primarily for the student and the general practitioner.

A very good feature is the introduction of many chapters with a concise description of anatomy and physiology. Illustrations are used profusely and although many are old they are, for the most part, entirely adequate. An obvious attempt to modernize the text has been undertaken by the inclusion of such newer concepts as the disease, retrolental fibroplasia, and the use of goniotomy in the treatment of congenital glaucoma.

Mention is made of many of the newer agents such as the hormones, cortisone and corticotropin, and the antibacterial drugs, sulfacetamide, aureomycin, terramycin, neomycin, streptomycin, bacitracin, polymyxin and chloramphenicol. On the other hand, treatments are described which are now considered outmoded, i.e., the use of the copper sulfate stick in trachoma; yellow oxide of mercury, in blepharitis, chronic conjunctivitis and interstitial keratitis; and dionin, in iritis and iridocyclitis, glaucoma, keratitis, scleritis and "incipient cataract."

Despite its obvious limitations, however, this edition can be recommended as an adequate, single-volume textbook of the eye.

Payson B. Jacobson, M. D.

HOSPITAL STAFF MEETINGS

Open to the Profession

CITY	HOSPITAL	DATE
Augusta	Augusta General Hospital	1st Wednesday
Bangor	Eastern Maine General	2nd Tuesday
Bath	Bath Memorial Hospital	1st Tuesday
Belfast	Waldo County	2nd Friday
Biddeford	Webber Hospital Notre Dame Hospital	2nd Thursday 2nd Monday
Boothbay Harbor	St. Andrew's Hospital	4th Tuesday
Caribou	Cary Memorial	1st Wednesday
Damariscotta	Miles Memorial	2nd Thursday
Farmington	Franklin County Memorial	2nd Monday
Greenville	Charles Dean Hospital	2nd Wednesday
Hartland	Scott Webb Memorial Hospital	1st Wednesday
Lewiston	Central Maine General St. Mary's General	2nd Thursday 2nd Monday
Portland	Maine Eye and Ear Infirmary Maine General Mercy	1st Tuesday 2nd Friday 4th Thursday
Presque Isle	Presque Isle General	1st and 3rd Tuesdays
Rockland	Knox County General	1st Monday
Rumford	Rumford Community	4th Wednesday
Sanford	Goodall Memorial	2nd Tuesday
Waterville	Sisters Thayer	2nd Tuesday Every Thursday

The above list was compiled from a questionnaire sent out by the Maine Hospital Association. Additions or corrections will be made on notification to the Secretary, Maine Hospital Association, Thayer Hospital, Waterville.

TUBERCULOSIS ABSTRACTS*

Issued by the National Tuberculosis Association

Viability of Tubercle Bacilli in Vivo With and Without Chemotherapy

By Rene J. Dubos, Ph. D., The American Review of Tuberculosis, June, 1953.

The fact is now clear that, despite the availability of several types of drugs highly effective against tubercle bacilli *in vivo,* it is very difficult, if not impossible, to eradicate infection from human patients, even by prolonged chemotherapy. In contrast is the other fact, long known to pathologists, that bacilli tend to disappear spontaneously and without any form of therapy from certain types of lesions, in particular from cold abscesses and from closed caseous areas. This is well confirmed by the recent observation that it is at times difficult to recover living bacilli from resected lung lesions in patients who have received no chemotherapy. Instead of being contradictory, however, these two phenomena correspond in reality to two independent aspects of the pathogenesis of tuberculosis. In this connection some experimental findings bearing on this problem are presented.

The failure of drugs to kill all bacilli in infected tissues has been observed, not only in human tuberculosis, but also in many types of experimental infections. This may be illustrated by examples taken from studies in mouse tuberculosis.

Results obtained independently by Dr. McCune of the Department of Medicine of the New York Hospital, and in our own laboratory, may be condensed very briefly. Mice were infected intravenously with doses of culture containing approximately from one hundred to one million organisms. Several strains were used, some virulent, others attenuated. The animals were treated with either streptomycin or isoniazid, or simultaneously with both drugs, the therapy being started on the very first day of infection and continued thereafter. Some of the animals were sacrificed at weekly intervals during three months. Although no macroscopic evidence of tuberculous lesions could be recognized in any animal, living tubercle bacilli could be recovered from all of them, even when BCG was used and when therapy had been continued for 85 days. Moreover, bacillary invasion of the tissues began uniformly within a few days after discontinuance of the drugs. Several lines of experimentation have thrown light on the mechanism of this disturbing phenomenon.

First there must be recognized the all important fact that, despite early claims, it is practically impossible to sterilize cultures of tubercle bacilli *in vitro* by adding to them either streptomycin or isoniazid. True enough, most of the bacilli appear to die rapidly in contact with the drugs, but a few survive prolonged exposure to them. The phenomenon probably has its counterpart *in vivo.* It is probable, in other words, that a certain percentage of the bacilli in an infected individual survive exposure to the drugs, not because they have developed hereditary "drug resistance," but because they exist in a form different from that in which observations are usually made.

Another reason for the difficulties experienced in eradicating infection may be that *in vivo* a large percentage of the tubercle bacilli are present, not free in body fluids, but instead within phagocytic cells. Experiments in tissue cultures have revealed that the inhibitory power of streptomycin fails to manifest itself against the growth of bacilli which have been engulfed by monocytes — a fact which certainly contributes to the inability of this drug to eradicate infection.

This explanation, however, cannot serve in the case of isoniazid, for this drug is just as effective intracellularly as it is extracellularly, in tissue cultures at least. It must be assumed, therefore, either that the bacilli can be engulfed by cells which behave toward the hydrazide in a manner other than that of the monocytes or, more likely, that some factor in the *in vivo* environment antagonizes antibacterial activity. The problem of the existence in tuberculous lesions of substances capable of inhibiting antimicrobial drugs is one worthy of attention. Areas of necrosis, particularly of caseation necrosis, contain a variety of partially broken-down tissue components of unknown chemical composition, many of which are likely to act as drug inhibitors. The finding that drugs penetrate caseous matter is no warrant, therefore, that they can exert their antibacterial action in the physiochemical environment of the lesion.

Bacilli often disappear spontaneously from certain types of lesions, without the help of chemotherapy. This fact is so well documented that there is no need to give more evidence of it. The presence in animal tissues of several substances might be responsible for this effect. These substances are: *(a)* The naturally occurring amines, spermine and spermidine. *(b)* The enzyme lysozyme which does not lyse the bacilli, but can kill them rapidly even in highly dilute solution (1:100,000). *(c)* A basic polypeptide which has been recently isolated from the thymus gland.

Organic acids accumulate in and around tuberculous lesions as a result of the anaerobic metabolism of inflammatory cells and of the activity of the lipolytic enzymes released during necrosis. Bacilli are unable to multiply in ordinary media, and fail to infect laboratory animals, after exposure for several weeks to physiologic concentration of the sodium salts of several organic acids. Sterilization of the cultures occurs when the atmosphere is completely or partially anaerobic and when the CO_2 tension is higher than normal. These are precisely the conditions prevailing in certain types of closed lesions.

There is another problem which has loomed very large during the past two years, namely, whether the bacillary forms which can be seen in resected lesions but which fail to grow in culture media and to cause disease in experimental animals should be regarded as "dead," or merely as dormant but potentially viable, bacilli. None of the evidence adduced so far is of much help in answering it. In my opinion, the techniques used by the various investigators were not adequate to determine the potential viability of dormant bacillary forms.

Organisms in which respiration is at a low level may merely have exhausted an essential metabolite, or be in a resting form akin to that of spore, and yet may be able to multiply when placed in the proper environment. This type of apparent death followed by revival under other conditions is common in many fields of microbiology.

Finally, one should not overlook the fact that tubercle bacilli are present not only in the parenchymatous lesions but also in lymphatic tissues. In cattle which have received a virulent infection after vaccination with BCG and show no overt sign of tuberculosis, the virulent bacilli can invariably be found in lymph nodes for months and years thereafter. It is known that even BCG bacilli can persist for several years in the lymph nodes of man and animal. Laboratory experiments have revealed, furthermore, that prolonged therapy with isoniazid fails to eradicate BCG infection.

All these facts leave the impression that no technique is as yet available to bring about with certainty a complete eradication of the bacilli from infected tissue. After antimicrobial drugs have ceased to exert their restraining influence on infection, either because the infective organisms have become resistant to them or because therapy has been interrupted, only the resistance of the host can act as a brake on reactivation of disease caused by the bacilli surviving here and there, detectable or not by the classical methods of pathology and bacteriology.

(The printing of Tuberculosis Abstracts is made possible by the coöperation of your local tuberculosis and health association.)

* From Vol. XXVI, December, 1953, No. 12.

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VOLUME FORTY-FOUR

THE JOURNAL

of the

MAINE MEDICAL ASSOCIATION

THOMAS A. FOSTER, M. D., Portland, Editor

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